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# The American Journal of Urology and Sexology

EDITED BY

WILLIAM J. ROBINSON, M. D.

OF NEW YORK

VOL. XI.

JANUARY-DECEMBER, 1915.

THE UROLOGIC PUBLISHING ASSOCIATION  
12 Mt. Morris Park West, New York



## List of Authors in Vol. XI of The American Journal of Urology and Sexology

A. Antonelli, M.D. ....	230
L. E. Aybard, M.D. ....	367
Drs. F. Balzer and R. Barthelemy ....	227
Marcel Benoist, M.D. ....	43
Walter D. Bieberbach, M. D. ....	278, 349
Drs. Bizard, Bralez and Decamp and Professor Gaucher ....	425
Drs. L. Bizard, J. Bralez and E. Gaucher ....	378
Victor Blum, M.D. ....	37
Leo Buerger, M.D. ....	188
Hugh Cabot, M.D. ....	89
Carl D. Camp, M.D. ....	233
Wm. H. Cary, M.D. ....	59
John R. Caulk, M.D. ....	1
Charles Greene Cumston, M.D. ....	364
Harold N. Cole, M.D. ....	511
Marcel Descuns, M.D. ....	373
Drs. Dogny, Gerbay and Levy-Bing ....	160
Professor Christian von Ehrenfels ....	496
Professor Sigmund Freud ....	391
Leo M. Gartman, M.D. ....	439
Hermann B. Gessner, M. D. ....	104
G. S. Gordon, M.D. ....	362
Alice Groff ....	474
H. Gougerot, M.D. ....	428
L. G. Gunn, M.D. ....	243
C. A. Hamann, M.D. ....	210
Chas. M. Harpster, M.D. ....	177
Stevens T. Harris, M.D. ....	112
G. W. Hartman, M.D. ....	198
M. L. Heidingsfeld, M.D. ....	135
Magnus Hirschfeld, M.D. ....	485
Frank B. Hoover, M.D. ....	98
E. Heinrich Kisch, M.D. ....	422
Irvin S. Koll, M.D. ....	61
Margarethe Kossak, M.D. ....	505
Southgate Leigh, M.D. ....	64
V. D. Lespinasse, M.D. ....	274
B. R. McGrath, M.D. ....	68
Professor Paul Mantegazza, M.D. ....	502
Fernand Suarez de Mendoza M.D. ....	380
S. W. Moorhead, M. D. ....	53, 184
Anton Nystrom, M.D. ....	416
Alejandro Noguiera, M. D. ....	219, 261
G. Shearman Peterkin, M. D. ....	11
John Philips, M.B. ....	119
H. Potthoff, M.D. ....	451
A Pousson, M.D. ....	158
L. Reinhardt, M.D. ....	509
S. Wm. Schapira, M.D. ....	283
H. E. Schmidt, M.D. ....	475
Theodore Schroeder ....	409
J. Garland Sherrill, M.D. ....	303
P. A. Specklin ....	270
Lloyd Thompson, M.D. ....	51
J. N. Vander Veer, M.D. ....	281
Francis S. Watson, M.D. ....	109
Joseph R. Wiseman, M.D. ....	461
Abr. L. Wolbarst, M. D. ....	143, 459

## Index to Principal Subjects

### A

Abscess, Urinary in the Female .....	129
Adenitis, Suppurative Syphilitic .....	437
Adrenalin Following Salvarsan Injections, Note on the Use of .....	172
Ambard, The value of the Coefficient of as an Indicator of the Physiologic Activity of the Kidney. ....	80
Anesthesia, Spinal in Urology .....	165
Angioma Urethral, Severe Hemorrhages from a .....	78
Anuria: Its Etiologic and Surgical Phases. By Hugh Cabot, M.D. ..	89
Anuria of Undetermined Cause .....	126
Arthritis, Gonorrhoeal, Pituitary Gland in .....	299
Artificial Impregnation .....	296

### B

Birth Problem and the War, The .....	481
Bladder, A Contribution to the Study of Medullary Localization in the Pathology of the Kidney and the .....	81
Bladder, A Contribution to the Study of Syphilis of the.....	129
Bladder, Cystoscopy in Tuberculosis of the .....	169
Bladder, the, Excision of Diverticula .....	87
Bladder, Foreign Bodies in the. A Remarkable Case. By Alejandro Noguiera, M.D. ....	219
Bladder, Gummatus Ulcerations of the. A Case Report. By S. Wm. Schapira, M. D. ....	283
Bladder, Hemostatic Value of Electro-Coagulation in Tumors of the..	175
Bladder Irritability in Women. By Wm. H. Cary, M.D. ....	59
Bladder, Shrapnel Bullet in: Report of a Case .....	479
Blood of Woman, The. By Dr. L. Reinhardt .....	509
Rook Notices .....	42, 88, 302, 483
Buboes, Chancroidal Without Chancroid. By. H. Gougerot .....	428
Buboes, Chronic Chancroidal .....	436

### C

Carcinoma of the Prostate. By L. G. Gunn, M.D. ....	243
Catheter Closing Device, A .....	168
Chancrè, Crown, of the Preputial Margin. By E. Gaucher, L. Bizard and J. Bralez .....	378
Circulation of the Testicle, Some Experimental Work on the. By Herman B. Gessner, M.D. ....	104
Coefficient of Ambard as an Indicator of the Physiologic Activity of the Kidney, The value of the. ....	80
Coitus Interruptus. By Victor Blum, M.D. ....	37
Congenital Multiple Cystic Disease of the Kidneys in Which One Kidney Was Removed, Report of a Case of. By Francis S. Watson ....	109
Contraction of Syphilis, Some Factors in Connection With the. By Harold N. Cole, M.D. ....	511
Cystinuria and Cystinous Lithiasis. By Marcel Benoist, M.D. ....	43
Cystitis, Incrusted. By John R. Caulk, M.D. ....	1
"Cystitis, Incrusted," Treatment of by Suprapubic Drain and Intravesi- cal Injection of Lactic Bacillus. By David Newman, M.D. ....	300
Cystoscope, A Combination: Examining Direct Catheterizing, In- direct Catheterizing and Operating. By Lloyd Thompson, M. D. ....	51

Cystoscopy, Improved Battery for. By S. W. Moorhead.....	184
Cystoscopy in Tuberculosis of the Bladder. ....	169

## D

Diverticula of the Bladder, Excision of .....	87
Double Standard of Morality, the. By Prof. Christian von Ehrenfels	496
Dysmenorrhea, The Intranasal Treatment of .....	477

## E

Editorial Announcement .....	43
Electro-Coagulation in Tumors of the Bladder, Hemostatic Value of ..	175
Endoscopic Diagnosis and Therapy of Proliferating Urethritis .....	167
Epididymis, Epidemic Inflammations of the and of the Salivary Glands	290
Epididymitis and Orchitis, Acute non-Gonorrheal .....	85
Epidemic Inflammations of the Salivary Glands and of the Epididymis	290
Epitrochlear Glands in Syphilis, Adenopathy of the .....	173

## F

Female Sex Instinct in Its Relation to Our Morality, The. By Leo M. Gartman, M.D. ....	439
--	-----

## G

Genital Syphilitic Infections, Some Extra. By M. L. Heidingsfeld, M.D. ....	135
Goldschmidt and Wossidlo Technic in Handling Obstructions at the Vesical Neck, The. By Chas. M. Harpster, M.D. ....	177
Gonorrhea, Advances in the Treatment of. By W. S. Moorhead, M.D.	53
Gonorrhea Complicated by Narrow Meatus .....	431
Gonorrhea in a Boy of Six and in a Boy of Three. By Walter D. Bieberbach, M.D. ....	278
Gonorrhea and Its Complications in Soldiers Admitted to the Hospital in the First Months of the War .....	285
Gonorrheal Renal Infections. A Report of Two Cases. By Frank B. Hoover, M.D. ....	98
Gonorrhea, Prevention of Extension to Posterior Urethra .....	480
Gonorrheal Urethritis, Remarks on Acute Anterior and Posterior. By Walter Bieberbach, M.D. ....	349
Gonorrhea, The Vaccinotherapy and Serotherapy of and Its Complications. With Special Reference to the Vaccine of Nicolle and Blaizot .....	79
Gray Oil Injections, Death after .....	295

## H

Hematuria, Essential Renal .....	86
Hermann-Perutz Reaction in Syphilis, Results with the .....	292
Hydrocele, Treatment of by Injections of Formalin .....	345

## I

Idiogamy. By Prof. Paul Mantegazza, M.D. ....	502
Impregnation, Artificial .....	296
Incest in Mormonism. By Theodore Schroeder, M.D. ....	409
Incipient Renal and Vesical Tuberculosis, Diagnosis and Treatment of.	84
Insanity, Sex Organ Changes in .....	518



# INDEX

v

## K

Kidney and the Bladder, A Contribution to the Study of Medullary Localization in the Pathology of the. ....	81
Kidney, Congenital Ectopic Taken for a Mesenteric Tumor .....	170
Kidney, Physiologic Activity of the, The value of the Coefficient of as an Indicator of the Physiological Activity of. ....	80
Kidney, Supernumerary .....	482
Kidneys, Congenital Multiple Cystic Disease of the, in Which One Kidney Was Removed, Report of a Case of. By Francis S. Watson .....	109

## L

Local Anesthesia, in Genito-Urinary Surgery, and of Spinal Anesthesia, The Field. By Arthur Hallam Crosbie, M.D. ....	115
Luetin Reaction and Potassium Iodide, The .....	433

## M

Male Childbed, The .....	481
Meatus Narrow, Gonorrhoea Complicated by .....	431
Medullary Localization in the Pathology of the Kidney and the Bladder, A Contribution to the Study of. ....	81
Modern Sexual Morality and Modern Nervousness. By Professor Sigmund Freud, M.D. ....	391
Mormonism, Incest in. By Theodore Schroeder, M.D. ....	409

## N

Neosalvarsan and the Wassermann Reaction. Drs. Levy-Bing, Dogny and Gerbay .....	160
Nephritis, Acute, The Prognosis and Treatment of. By John Phillips, M.D. ....	119
Nephritis, A Case of Specific (Secondary Stage) Complicated by an Intercurrent Typhoid Fever .....	171
Nephritis in Acute Rheumatism .....	293
Nephritides, Traumatic. By A. Pousson .....	158
Nephropexy .....	387
Nervousness, Modern, and Modern Sexual Morality. By Professor Sigmund Freud, M.D. ....	391
Neurasthenia Vera and the Anxiety Neurosis, Virginity of Twenty Years Standing in a Married Woman Suffering from. By Curran Pope, M.D. ....	250
Neuroses in the War, Urinary .....	433
Nevus and Heredo-Syphilis .....	173

## O

Obesity and Sexuality in Woman, The Reciprocal Relationship of. By Professor E. Heinrich Kisch, M.D. ....	422
Opposite Sex Twins in One Body .....	519
Orchitis and Epididymitis, Acute non-Gonorrhoeal .....	85

## P

Paresis, General, Rapidly Aggravated by 606, A Case of .....	174
Paresis, and Syphilis, Conjugal .....	215

Peri-Renal and Peri-Ureteral Tumors, A Note on. By C. A. Hamann M. D. ....	210
Pituitary Gland in Gonorrhoeal Arthritis .....	299
Pregnancy, Pyelonephritis of, Treated by Ureteral Catheterization, Followed by Nephrectomy .....	132
Preputial Margin, Crown Chancre of the. By E. Gaucher, L. Bizard and J. Bralez .....	378
Priapism Following Injury to the Perineum .....	388
Primitive Folk, Intermediate Types Among. By Edward Carpenter....	483
Prostate, Carcinoma of the. By L. G. Gunn, M. D. ....	243
Prostate, A Case of Sarcoma of the. By Marcel Descuns .....	373
Prostatectomy—(Freyer's Operation), The Sexual Functions following Suprapubic. By L. E. Aybard, M. D. ....	367
Prostatectomy, Mortality after, Based on a Study of 229 Fatal Results. By Benj. Tenney, M. D. and Henry M. Chase, M. D. ..	203
Prostatectomy, Safeguarding in. By Southgate Leigh, M. D. ....	64
Prostate, Stenotic Atrophy of the .....	294
Prostatic Calculus in a Boy of Ten .....	430
Prostatitis, Peculiar Symptoms Which May Be Caused by Chronic. By Joseph R. Wiseman, A. B., M. D. ....	461
Pruritus Vulvae, The Treatment of .....	382
Pyelitis. By B. R. McGrath, M. D. ....	68
Pyelocystitis in Infancy .....	214
Pyelonephritis of Pregnancy Treated by Ureteral Catheterization, Followed by Nephrectomy .....	132

## Q

Quarantine of Syphilitic, Petition for. ....	524
--	-----

## R

Radiographic Diagnosis of Renal Calculi, Renal Mobility and Its Consequences in the .....	186
Regulation of Offspring and Sexual Morality, The. By H. Potthoff..	451
Renal and Vesical Tuberculosis, Incipient, Diagnosis and Treatment of .....	84
Renal Disease, Bilateral, Operations of the Kidney in the Presence of .....	132
Renal Hematuria, Essential .....	86
Renal Infections, Gonorrhoeal. A Report of Two Cases. By Frank B. Hoover, M. D. ....	98
Renal Mobility and Its Consequences in the Radiographic Diagnosis of Renal Calculi .....	176
Renal Pelvis, Giant Calculus of the and Hypernephroma. By Dr. Alejandro Noguiera .....	261
Renal Tuberculosis, A Case of, Operated despite a High Coefficient of Ambard, with Recovery .....	131
Retention of Urine due to Morphine .....	346

## S

Salivary Glands, Epidemic Inflammations of the, and of the Epididymis . . .	290
Salvarsan Injections, Note on the Use of Adrenalin Following....	172
Salvarsan, On the Causes of Death from .....	186
Salvarsan, The Treatment of Syphilis of the Nervous System with, in the Frankfurt and Hambury Clinics .....	162
Sarcoma of the Prostate, A Case of. With Remarks. By Marcel Descuns . . .	373
Sardou's Test for Blood in the Urine. By Charles Greene Cumston, M. D. ....	364

Serotherapy of Gonorrhœa and Its Complications, Vaccinotherapy and, With Special Reference to the Vaccine of Nicolle and Blaizot . . . . .	79
Sex in the Small Town. A Report and A Query. By * * *	406
Sexology, The Importance of . . . . .	347
Sex Truths. By Alice Groff . . . . .	474
Sexual Abstinence. By H. E. Schmidt . . . . .	475
Sexual Abstinence and Its Influence on Health. By Professor Anton Nystrom, M. D. . . . .	416
Sexual Functions Following Suprapubic Prostatectomy—(Freyer's Operation), The. By L. E. Aybard, M. D. . . . .	367
Sexual Hypochondria and Morbid Scrupulousness. By Magnus Hirschfeld, M.D. . . . .	485
Sexual Impotence: Etiology, Pathology and Treatment. By Irvin S. Knoll, M. D. . . . .	71
Sexual Life of the Hysteric, The. By Dr. Margarethe Kossak . . . . .	505
Sexual Morality and Regulation of Offspring, the. By H. Pott-hoff . . . . .	451
Sexual Morality, Modern and Modern Nervousness. By Professor Sigmund Freud, M. D. . . . .	391
Sexual Perversion, A Clear Case of. By J. N. Vander Veer, M. D.	281
Specific Treatment—Neosalvarsan in Particular—on the Wassermann Reaction. The Influence of. Drs. Levy-Bing, Dogny and Gerbay . . . . .	160
Spinal Anesthesia in Genito-Urinary Surgery, The Field for Local and of. By Arthur Hallam Crosbie, M. D. . . . .	115
Spinal Anesthesia in Urology . . . . .	165
Sterility, Experimental and Clinical Work on. By V. D. Lespiasse, M. D. . . . .	274
Stomatitis, Gonorrhœal . . . . .	478
Syphilis, Adenopathy of the Epitrochlear Glands in . . . . .	173
Syphilis, Affecting the Nervous System, Some Aspects of Congenital. By Carl D. Camp, M. D. . . . .	233
Syphilis and Paresis, Conjugal . . . . .	215
Syphilis, Case of Third Generation . . . . .	390
Syphilis, Combined Treatment of with Mercury and Salvarsan. By G. W. Hartman, M. D. . . . .	198
Syphilis in Nasal Operations, A Sign of Latent . . . . .	430
Syphilis, Intraspinial Treatment of Nervous . . . . .	434
Syphilis, Early Nervous . . . . .	297
Syphilis, Intestinal. By Fernand Suarez de Mendoza . . . . .	380
Syphilis, Negative Luetin Tests in Congenital . . . . .	578
Syphilis, New Complement Binding Reaction in—Preliminary Report. By Stevens T. Harris, M. D. . . . .	112
Syphilis of the Bladder, A Contribution to the Study of . . . . .	129
Syphilis of the Inner Ear . . . . .	388
Syphilis of the Nervous System, The Treatment of with Salvarsan in the Frankfurt and Hamburg Clinics . . . . .	162
Syphilis, Results with the Hermann-Perutz Reaction in . . . . .	292
Syphilis, The "Phlegmasia Alba Dolens" of Secondary . . . . .	287
Syphilis, Virulent Hereditary in a Child Born Twenty Years After the Mother Had Been Infected. By Professor Gaucher, and Drs. Bizard, Bralez and Decamp . . . . .	425
Syphilitic Chancre, Notes on Certain Modes of Contagion of the and on Individual Prophylaxis of Syphilis. By F. Balzer and R. Barthelemy . . . . .	227
Syphilitic Chancre, Subcutaneous . . . . .	289
Syphilitic Suppurative Adenitis . . . . .	437
Syphiloma of the Ocular Adnexa, Initial, as a Result of an Accident While at Work. By A. Antonelli . . . . .	230



## T

Telangiectasis of the Verumontanum, A Case of. By Abr. L. Wolbarst, M. D. ....	459
Testicle, Some Experimental Work on the Circulation of the. By Hermann B. Gessner, M. D. ....	104
Timidity, Sexual Causes of. ....	516
Tubercle Bacilli in the Urine ....	216
Tuberculosis, Incipient Renal and Vesical, Diagnosis and Treatment of ....	84
Tuberculosis of the Bladder, Cystoscopy in ....	169
Tuberculosis, Renal, A Case of, Operated despite a High Coefficient of Ambard, with Recovery ....	131
Tumors, Peri-Renal and Peri-Ureteral, A Note on. By C. A. Hamann, M. D. ....	210

## U

Ureteral Reflux, Acquired ....	128
Urethra, A Case of Double ....	168
Urethral Angioma, Severe Hemorrhages from a ....	78
Urethritis, Gonorrhoeal, Remarks on Acute Anterior and Posterior. By Walter D. Bieberbach, M. D. ....	349
Urethritis, The Endoscopic Diagnosis and Therapy of Proliferating....	167
Urethroscope, A Combined Examining and Operating. By G. S. Gordon, M. D. ....	362
Urethrovesimal Diagnosis and Treatment (With Description of a New Instrument) concerning Certain Problems in. By Leo Buerger, M. D. ....	188
Urinalysis, Fallacies in. By William Schaefer, M. D. ....	357
Urinary Abscess in the Female ....	129
Urine, Sardou's Test for Blood in the. By Charles Greene Cumston, M. D. ....	364
Urine, Tubercle Bacilli in the. ....	216
Urological Methods of Diagnosing Surgical Conditions of the Urinary Organs which Obviate the Use of the Knife as a Diagnostic Instrument. By G. Shearman Peterkin, M. D. ....	11
Urology, Spinal Anesthesia in ....	165

## V

Vaccinotherapy and Serotherapy of Gonorrhoea and Its Complications, With Special Reference to the Vaccine of Nicolle and Blaizot . . . . .	79
Verumontanitis, Notes on ....	83
Vesical Diverticula. By J. Garland Sherrill, M. D. ....	303
Vesical Neck, Obstructions at the, Goldschmidt and Wossidlo Technic in Handling, The. By Chas. M. Harpster, M. D. ....	177
Vesical Tuberculosis, and Renal, Incipient, Diagnosis and Treatment of ....	84

## W

Wassermann Reaction, The Influence of Specific Treatment—Neosalvarsan in Particular, on the. Drs. Levy-Bing, Dogny and Gerbay . . . . .	160
Wassermann Test, A Further Clinical Study of the Contradictory Findings in the. By A. L. Wolbarst, M. D. ....	143

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR

VOL. XI

JANUARY, 1915

No. 1

## INCRUSTED CYSTITIS <sup>1</sup>

BY JOHN R. CAULK, A.M., M.D., F.A.C.S., St. Louis, Mo.  
Genito-Urinary Surgeon to Out Patients, Washington University Hospital.

THE idea is quite firmly established that a cystitis which does not respond to ordinary routine treatment within a few weeks is usually tuberculous. There is, however, a type of cystitis which is equally as rebellious for relief as is tuberculous cystitis, and to which but a few pages are devoted in the mass of literature that has appeared on this subject. I speak of "Incrusted Cystitis" occurring in an alkaline urine. Realizing the extreme importance and being impressed with the great seriousness of this malady, I am bringing it before you for several reasons: To emphasize its seeming malignancy if not properly treated, to outline some of the clinical and pathological features, and above all to present a treatment, which in my hands has worked not only satisfactorily, but like magic.

This paper is based on the study of an interesting case which occurred at the Washington University Hospital about a year ago, the patient complaining of very frequent, painful urination, the passage of stones and bloody urine.

Mother died at menopause, one sister died during confinement. No bladder or kidney trouble in family; no history of tuberculosis or cancer. In childhood she had whooping-cough, small-pox and pneumonia; no scarlet fever, diphtheria or typhoid. No history of cardio-respiratory disease except pneumonia. She has always had a good appetite and digestion. She has been accustomed to eating large quantities of lemons, from seven to ten a day. Has never been a meat eater, but is a vegetarian; also eats large quantities of bread. Up to the present time she has

<sup>1</sup> Read before the American Association of Genito-Urinary Surgeons, Stockbridge, Mass., May 16, 1914.

had no trouble with her bladder. There has been no history of gonorrhoea or syphilitic infection. Her menstruation has always been irregular, accompanied by considerable pain during the first day. Married eight years, has two children, aged seven and four respectively. Confinements, both normal, neither delivery instrumental, catheterized after the last delivery.

Her trouble began four years ago, one month after last confinement. The initial symptom was frequency of urination, with some straining at the end of the act. This frequency grew worse, until two years ago when she was forced to urinate every ten to fifteen minutes, day and night. Hematuria started three years ago, at first terminal, later entirely mixed with the urine. It has been constant, at times bright red, but generally chocolate color. About the same time she began to pass small stones in her urine, which has kept up intermittently since. There was considerable pain throughout; at first it was terminal, later continuous, so that the patient was never free from suffering. Between the urinary acts she felt as though something was pressing down on her bladder. Two years ago she consulted a surgeon, who did a suprapubic cystotomy, and according to the patient's statement he removed a tumor and stone from the bladder. The suprapubic wound healed in eight weeks. Patient was not relieved by the operation; her former condition recurred, characterized by frequency of urination, pain and hematuria. Tolerating this as long as she could, and in the meantime losing weight and strength, and becoming very pale, she presented herself at the Washington University Clinic, May 24, 1913, in a very bad condition, suffering from the symptoms which have been described above. She was very pale and thin. On examination, her heart and lungs were found negative. Abdominal examination showed liver and spleen to be normal in size, but the right kidney palpable, though not enlarged or tender. There was a scar in the suprapubic region, site of previous operation, which was extremely tender. Vaginal examination was negative. Urine bloody, alkaline, Sp. Gr. 1018-1027. Contained blood, pus, long bacilli, proteus vulgaris, hemoglobin 80%. Wassermann reaction negative. Cystoscopic examination: there was considerable edema of the meatus and whole urethra; slight click on introducing the cystoscope. Bladder capacity 150 cc. Bladder entirely washed clean. Cystoscope showed a very terrific general acute cystitis. The bladder throughout was velvety and red. Over the trigone



and bladder base were seven irregular, elevated projections, covered with a silvery white deposit. These masses were not composed of long villi, but the surfaces were irregular and covered with a downy material. The ureter catheter showed that the masses were fixed to the bladder wall, but that this downy material could be elevated and moved about. It was, however, quite superficial, the main bulk of the tumor being firm and fixed. Around the base of these tumor masses was an intense hyperemia, and in several places bleeding spots could be seen. Around the internal orifice of the bladder, particularly below, there was an annular band of this same material, with the exception that it was not elevated. Neither ureteral orifice could be seen, as the whole trigone was obliterated by these masses. The urine was examined for tubercle bacilli, and guinea-pigs were injected, the results being negative. The diagnosis at this time was, "incrusted bladder tumors." Patient received copious amounts of water, urinary antiseptics, irrigations of bichloride and boric acid solutions twice daily. She was treated with high frequency sparks for some time without any benefit whatever. She continued to bleed and also to have the same distressing symptoms. A piece of tissue removed with an operating cystoscope was analyzed by Dr. Brooks, and his report is as follows: The specimen shows on its surface a large amount of necrotic, eosin-staining material. Imbedded in this necrotic material are small densely hematoxylin-staining bodies. None of these shows a definite crystalline form, but in some instances there is imperfect crystallization. The greater portion of this blue-staining material is in the form of fine granules. Underneath this necrotic surface there is a zone of granulation tissue containing numerous new-formed blood-vessels showing an extensive infiltration with leucocytes. The squamous epithelium of the bladder persists in small islands of cells. There are also villous-like masses of epithelium made up of a central core of connective tissue with a squamous cell epithelium covering.

Pathological diagnosis: Chronic ulcerative cystitis with multiple epithelial papillomata and deposit of calcium salts.

Suprapubic cystotomy, June 14. The bladder was found extremely red and velvety. The whole trigone, internal orifice and bladder base were studded with small, irregular, tumor masses of different sizes, none larger than a small cherry, which were covered with a whitish granular material that seemed quite soft to the palpating finger. The internal orifice was surrounded by an

annular mass of this material. There was no definite villous tumors, and no evidence of tuberculosis. The small tumors were softer than the larger ones. The larger ones yielded a gritty sensation on palpation; all were firmly fixed to the bladder wall and were removed by curetting and excision. The interior of the bladder was sparked with the high frequency current, and then closed in two layers; retention catheter for drainage. Patient did nicely after operation. Bleeding diminished for a short period, but she soon returned to her previous state. Cystoscopic examination two weeks after operation showed the identical picture of the previous examinations, with the exception that there was a white deposit along the line of the suprapubic scar. Hematuria still persisted. Patient left the hospital for a while, but returned in November in identically the same condition, except that she was weaker and more anemic. This time she had only about seventy per cent. hemoglobin. She was voiding every fifteen minutes, day and night, and suffering exquisite pain. She was curetted through the urethra several times, larger masses of calcareous material and granular debris being removed. Analysis by Dr. Shaffer showed the material to be composed principally of calcium phosphate, to a less degree of triple phosphates and ammonium urate. The urine was highly alkaline and the proteus vulgaris bacilli were still present. She was put on boric acid irrigations, acid sodium phosphate and urotropin by mouth in large doses. By means of these curettages, internal medications, fulgurations and repeated twice daily lavages, nothing was accomplished. The case really seemed hopeless, as after the removal of the material this same condition would reappear.

Realizing then that I was dealing with a highly alkaline urine kept up by the proteus infection with the rapid precipitation of calcareous material, efforts were then directed toward changing the chemical reaction of the urine, and maintaining this reaction. For this purpose, a glycerine emulsion of Bulgarian bacilli, prepared from the tablets of Hynson and Westcott were used. Three tablets were used at a time, which according to the laboratory report of Hynson and Westcott contain 18,000 bacteria. The first injection was given March 5. This treatment was repeated daily for one week, then every other day for ten days. Much to my surprise, at the end of forty-eight hours the patient was greatly benefited. Hematuria had considerably diminished, she could retain her urine an hour, was passing large amounts of calcareous

material, and was not suffering pain. On March 7 urine cloudy and still alkaline. Stained specimen showed pus and large bacilli in chains. March 11, urine hazy. Cystoscopic examination at this time showed multiple ulcers on the bladder base, trigone and internal orifice. No incrustations or signs of tumor masses. Both ureteral orifices were easily seen, and showed no ulceration directly over them.

Ureter catheters were passed easily within the orifices and perfectly clear acid urine without infection was obtained. March 12, patient is able to hold urine three hours, but urine still hazy. March 16, patient slept five hours last night, urine very cloudy and very acid, and contains large bacilli. Bichloride irrigation. Forty-eight hours later urine clear, still acid. March 28, a little over three weeks after first treatment, bladder is entirely free from any incrustation. There is no redness, except posterior to the trigone; there is a healing ulcer. Both ureteral orifices clean; trigone flat. The edema of the urethra and the bladder base has entirely subsided. May 11, urine still acid and clear, and has remained so without treatment until the present time. She can retain her urine seven hours, has no pain, and absolutely no urinary annoyance. She has gained a great deal in weight and feels like another individual.

This severe type of rebellious alkaline cystitis, accompanied by a rapid precipitation of salts on an ulcerated bladder and associated with such a protracted hematuria, is so very obstinate to the accepted treatments and was so simply controlled by the treatment as given above, that I felt that a report might interest this Association.

The pathogenesis of this disease is no more definitely understood than is that of incrustation elsewhere. It seems most probable that the combination of infection, necrosis and urinary supersaturation are the most important factors, but as Lichtenstern and others have said, just why the organism should cause necrosis and incrustation in one case, and proliferative changes in another, is unknown. The bacteria which have been found in association with it are proteus, staphylococcus, streptococcus, colon and tubercular bacilli.

Incrusted cystitis has been observed as a concomitant disease with gonorrhoea, stricture of the urethra, chronic cystitis, hypertrophy of prostate, bladder tumor, renal tuberculosis, pyelonephritis, around vesico-vaginal fistulae and foreign bodies.

Its inception frequently occurs during the puerperium, the so-called puerperal cystitis, which was evidently the cause of the disease in the case described, as her initial symptoms dated one month after the birth of a child. There was probably another etiological factor, as she had been a great lemon eater and vegetarian.

There are two types of incrustated cystitis: the flat or surface type; and the elevated or tumor-like. These may occur alone or associated. The first is more commonly seen behind stricture, prostatic obstruction, around the vesico-vaginal fistulæ, and capping bladder tumors. When the two are associated, the flat or surface type is more commonly seen around the internal orifice of the bladder. The elevated or tumor-like is the rarer and more interesting of the two, and is due to the constant precipitation of salts on the already incrustated ulcer. In gross these masses resemble small, irregular tumors, studding usually the trigone and bladder base, covered with a soft, downy, whitish gray, granular material, which Marion describes as resembling a sponge. The small masses are soft; the larger ones quite firm. They are very adherent to the bladder wall, and upon their removal, a punched-out ulcer with irregular edges is left in the mucosa. The bladder shows a general, intense, acute cystitis, with marked edema. The slightest touch causes bleeding. This edema is not confined to the bladder, but extends along the urethra and causes the same intense reaction at the meatus. Pyelonephritis is a common complication, but this did not obtain in our case. The incrustation is usually limited by the submucosa, but in the more advanced cases the whole bladder-wall may be infiltrated.

The large masses resemble true stones; the smaller ones and the incrustated ulcers show a micro-pathology similar to that described by other authors who have studied this subject, namely: a superficial necrotic zone containing islands of incrustated material and thrombosed vessels, and beneath this a dense zone of infiltration. Here and there islands of mucous membrane remain, and in the case cited there were several villous-like projections which resembled vesical papillomata, but were evidently chronic proliferated changes. These villous-like formations are frequently observed in chronic ulcerative cystitis.

The most distinguishing pathological characteristic of this disease is its tendency to rapid recurrence. These tumor-like masses can be entirely removed, and within forty-eight hours completely

replaced. The salty precipitate which is usually present in incrustated cystitis, is generally composed of phosphates.

The symptoms of this disease are usually those of a very aggravated cystitis, starting with marked increased frequency of urination, hematuria which is terminal at first but finally constant. In the case reported the hematuria persisted for three years without remission. The urine is generally highly alkaline and urination very painful, and a characteristic and almost pathognomonic symptom is the repeated passage of calcareous material in the urine.

The diagnosis is not always easy. The cystoscope offers our only intelligent means; and often cystoscopically one may be misled as to the true nature of the condition. At first I was entirely wrong in the diagnosis, as I thought I was dealing with multiple papillomata which had become incrustated, particularly in the light of the fact that the patient had undergone a previous suprapubic operation supposedly for tumor.

The tumor-like incrustations present an interesting picture, and are extremely difficult to differentiate from incrustated tumors. The chief points of difference are that they are not composed of long villi, are very firm, with surfaces usually irregular and downy, and that by means of the ureter catheter, only the superficial downy material can be moved about. Further, the removal with an operative cystoscope shows the masses not to be composed of villi but of inflammatory tissues and calcareous deposits. These elevated incrustations have been mistaken for true calculi. The diagnosis can usually be made by the fact that they are fixed to the bladder-wall, and occur in different parts of the greatly inflamed bladder. A point to be remembered is that the intense cystitis with such marked edema makes it often difficult to predict the fundamental cause of the incrustation, for in our case, among other things an incrustated tubercular bladder was considered, but the usual standard tests for tuberculosis were negative. It is often impossible to locate the ureteral orifices, since these deposits so frequently cover them.

An important diagnostic point and one which cleared up the reported case, is the therapeutic test of acidulating the urine, thereby causing rapid evacuation of the tumor masses, demonstrating the remaining ulcers, quieting down the cystitis so that a more thorough inspection is possible, and permitting ureteral catheterization in order to examine the upper tract.



It is concerning the treatment of incrustrated cystitis that I wish particularly to speak. Naturally, with a disease so obstinate and so rebellious, one would expect to find many methods proposed. All the standard lavages and instillations have been utilized, namely, bichloride of mercury, lithium salicylate, silver nitrate, weak solutions of acetic and lactic acid, iodine, etc.; coupled with these, urinary antiseptics, particularly urotropin and its derivatives. None of these has produced lasting effects or curative results, and most of the afflicted individuals have been finally forced to undergo surgical interventions.

Surgically this problem has been attacked endovesically, suprapubically, and in rare instances vesico-vaginally. The surgical principles which have been employed have been curettage, excision and drainage, the idea being to remove the calcareous material and to drain the bladder in order to prevent re-formation. Curetting the bladder through the urethra has been employed by several men, notably Marion, Unterberg, François and others. This method has been used only in the female. By this means these authors claim that the bladder mucous membrane can be thoroughly removed, and that cure frequently follows. After the curettage, a retained catheter is usually placed. This method is simple in execution and without particular danger; it possesses the extreme disadvantage, however, of being a blind surgical procedure, so that one knows neither the extent nor the thoroughness of his manipulations. It is attended frequently with rapid recurrence. François, in his report, shows fifty per cent., and in our case recurrence was almost immediate by this method.

The suprapubic methods have been thorough curettage in an open bladder, curettage with the application of iodine and other chemicals, either with closure or with temporary fistulæ; and finally excision of the tumor masses and ulcerations with suture of the mucous membrane, as has been done by Lichtenstern, Latzko, Zuckerkandl, and Marion. These suprapubic operations have been attended with a high per cent. of recurrences, except those in which the ulcers were resected and the mucous membrane sutured. This procedure seems to have offered satisfactory results. In our own case, I am inclined to think that recurrence would have followed, even had this procedure been utilized, as there was rapid recurrence along the line of suprapubic incision, following the bladder suture.

In fact all the above procedures were employed, and in spite

of the utmost surgical care, our attempts were baffled, as recurrence was almost immediate. After this long line of surgical therapy, attended by such suffering on the part of the patient, a simple therapeutic measure, the intravesical injection of Bulgarian bacilli, sufficed to effect a rapid and complete cure. The Bulgarian bacillus has been employed in many parts of the body to combat infections. Since Metchnikoff first used these bacilli in intestinal putrefaction, other men have followed his lead and used it in various diseases, particularly in chronic nose, throat and sinus troubles, and chronic suppurative wounds. Gynecologists have used it quite extensively in vulvo-vaginitis. North in 1909 collected a large series of cases in which this organism had been used, and the results in many cases were quite satisfactory; but in his series of three hundred cases he makes mention of but two in which it had been used in the bladder, and these were indefinite reports. As far as I have been able to determine, this procedure has never been previously used in incrustated cystitis.

I realize, that to the general profession this therapy has been considered with great levity and skepticism; I entertained the same idea until I began to use it. If one will stop to take into consideration an old adage which runs "Fight fire with fire," the rationale of this treatment will be elucidated. It is a known fact that certain species, and even strains of the same species of bacteria, are positively antagonistic to others as regards growth and development. An example of this is the well-known disappearance of the normal flora from the urethra of the male during the course of an acute gonorrheal urethritis.

Growing in this patient's bladder were bacteria requiring an alkaline or faintly acid medium. Injection of any acid, mineral or organic, would have afforded only temporary change in reaction, because of the frequent evacuations of the bladder. In introducing acid-producing bacteria, we hoped that some would remain between the urinary acts and become implanted, multiply and create enough acid to transform the urinary reaction. In the bacterial battle which followed, the Bulgarian bacillus soon demonstrated its supremacy and shortly overwhelmed the proteus, and the desired change occurred.

Your time will be spared by my not entering into the morphological and cultural characteristics of this organism, as this has been thoroughly done by Metchnikoff, Heineman, Hefferan, Herter, Kendall and others. It will suffice in this connection to

say that under suitable surroundings, particularly in the presence of carbohydrates, this organism is capable of generating as high as three per cent. lactic acid.

Criticism may be offered that the technique of injecting an emulsion of these tablets into the bladder might be faulty for two reasons: 1st. the introduction of other bacteria, and 2nd that these bacilli themselves might be harmful. To defend the treatment against these remarks, it may be said that several cultures of these tablets were made by Dr. Thomas of the Bacterial Laboratory of Washington University, and on each occasion a pure culture of lactic acid bacilli was obtained. The first proof of the harmlessness of this organism to the bladder mucous membrane was demonstrated in the patient herself, who developed an acid urine containing these organisms, which after one bichloride irrigation were completely destroyed. They seem to lack resistance to chemicals, and even to their own acid products, because when a certain degree of acidity is reached they die. Several animals were used to demonstrate the effect of this organism upon the bladder mucous membrane. Two dogs were used. The bladders of these animals were injected, after suprapubic exposure, with an emulsion of the Hynson and Westcott tablets and a forty-eight hour milk culture. One of the bladders was traumatized by crushing; the other was not, and in neither of these bladders was there the slightest inflammatory change. The urine at the end of four days was sterile. One rabbit was also treated in a similar manner with the same negative result. These experiments clearly indicate the harmlessness of this organism within the bladder.

I have used this treatment in several cases of alkaline cystitis; in one case of ammoniacal suprapubic wound, with very pleasing results. I should think it would be particularly indicated in the recurrent soft phosphatic calculi occurring in alkaline cystitis which occasionally follows prostatectomy.

In conclusion I wish to say that in the treatment of inerusted cystitis, we are not therapeutically helpless, as Unterberg, Lichtenstern and others have said, but possess in the Bulgarian bacillus a remarkable therapeutic power, which I believe worthy of your trial.

Humboldt Building.

## UROLOGICAL METHODS OF DIAGNOSING SURGICAL CONDITIONS OF THE URINARY ORGANS WHICH OBLVIATE THE USE OF THE KNIFE AS A DIAGNOSTIC INSTRUMENT.<sup>1</sup>

By G. SHEARMAN PETERKIN, M.D., F.A.C.S., Seattle, Wash.

**T**O address men whose ability, enthusiasm and foresight have made Portland the recognized center of medicine in the Northwest, and have given to your city hospitals with organized staffs, clinics, medical schools, this society, etc., is certainly an honor, and worthy of one's best effort.

Being a specialist, I assumed when I received the request of your secretary, Dr. McCusker, so kindly extended by your president, Dr. Andrew C. Smith, that it was your desire to hear of some of the more recent advances in urology, and of their practical utility when applied to the treatment of patients.

I selected an ambiguous title that I might have considerable leeway in compiling this paper, so as not to make it too technical, as I realized it was an address to an audience select but representative of all branches of medicine.

Urology has advanced so rapidly that to-day it is a fact that the necessary equipment both for the scientific and practical urologist is no longer limited to the cystoscope and its accessories (the ureteral catheters, functional test, etc.), but, that corroborative evidence may be obtained, demands as essential aids a thoroughly equipped clinical, as well as an X-ray, laboratory.

Since the more recent advances in urology are in radiography, I shall present some studies and personal cases to illustrate its practical utility.

The first illustration will be a series of drawings (Ill. 1, Figs. 1 to 14) of thirteen pairs of normal kidneys — i.e., without surgical lesions — taken post mortem, their pelves injected with bismuth and the kidneys then X-rayed. These drawings, beside presenting the outlines of the renal pelves, also illustrate the arteries and veins of the kidneys.

In observing these illustrations, the following points should be noted:

<sup>1</sup> Read before Portland Academy of Medicine, June 4, 1914.

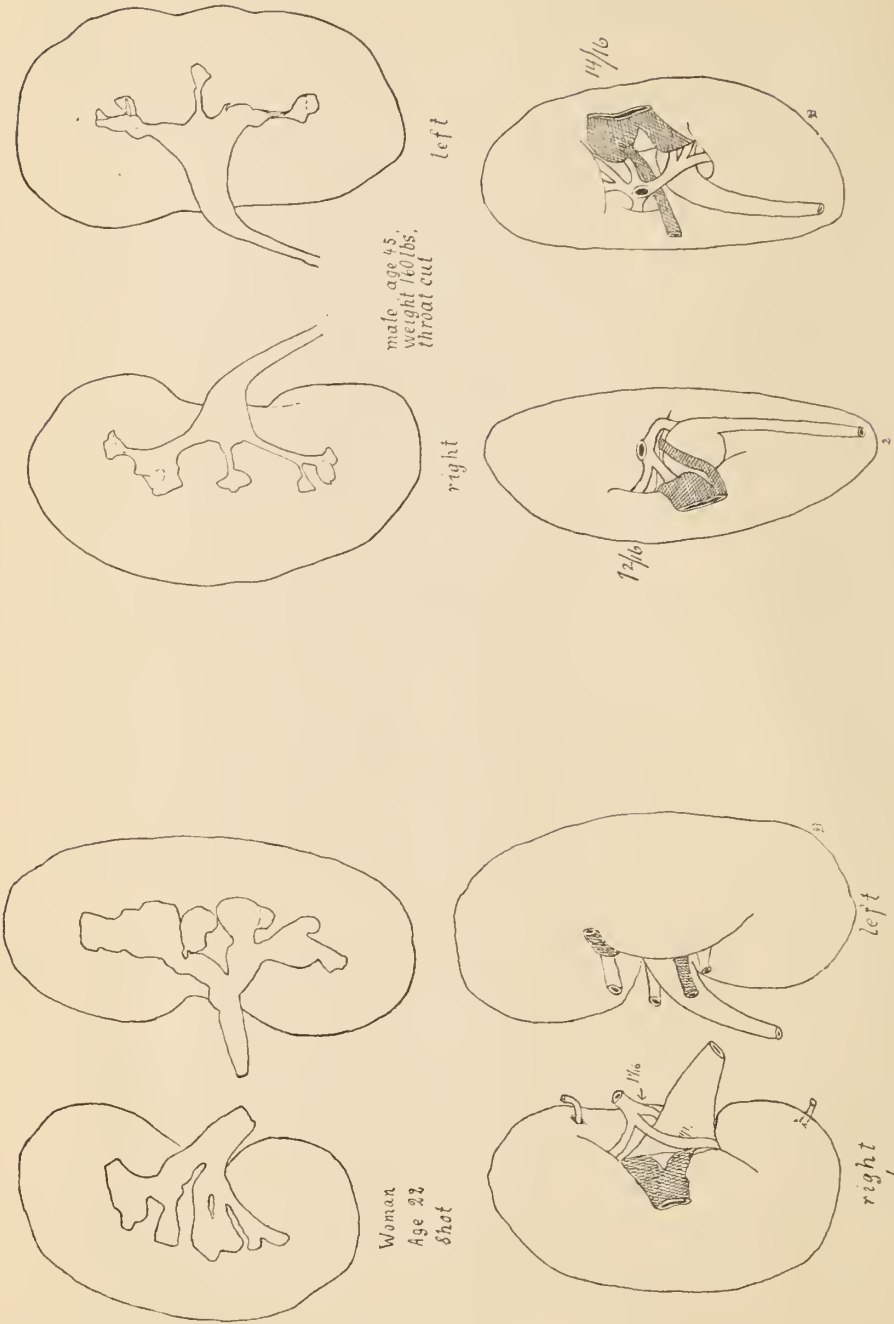
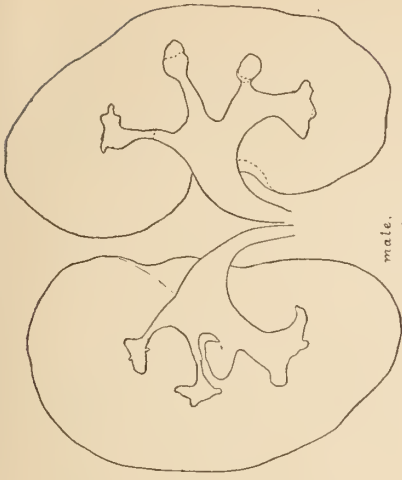


Illustration I—Fig. 2.

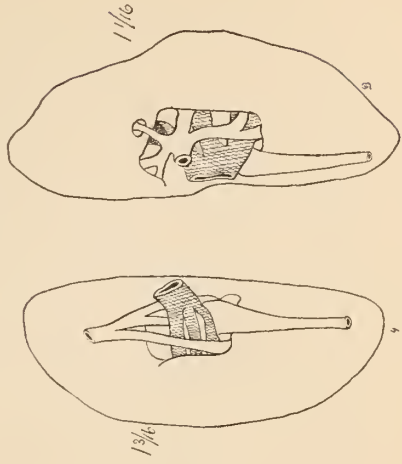
Illustration I—Fig. 1.





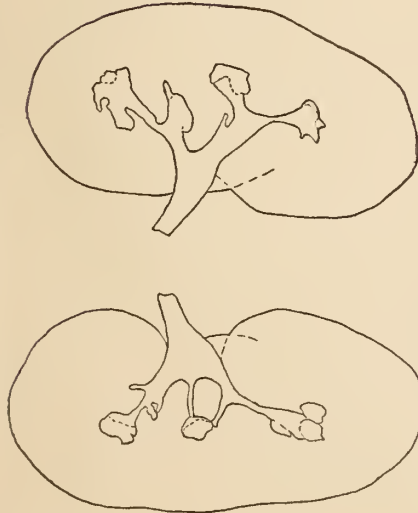
male,  
age 10,  
weight 200 lbs,  
knife wound

right left



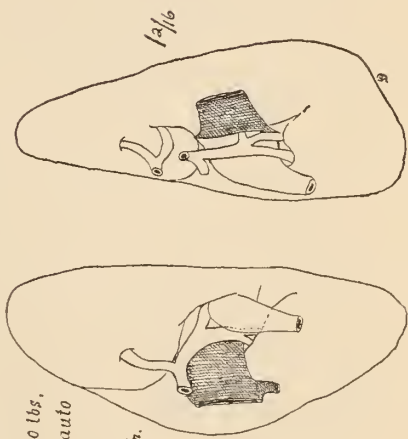
1 3/16

1 1/16



female single,  
age 25,  
weight 120 lbs,  
struck by auto

right left



1/4 in.

1 2/16

Illustration I—Fig. 4.

Illustration I—Fig. 3.

1. That there are no two pelves exactly alike, even in the two kidneys of the same individual.

2. That the calices are very numerous, irregular in form, connected with the pelvis often, as it were, only by a neck.

3. That the papillæ projecting into the pelvis between the calices have a round, semi-circular eminence.

Having studied these pictures, the question immediately arises: What information of practical value can be deduced from work of this character?

The answer is that the only means of diagnosing many pathological conditions of the kidney, as pyelitis from perinephritic abscess, abdominal from renal tumors, congenital malformed kidneys, hydronephrosis, calculi of the kidneys, extent of kidney destruction, dilated ureters and ureteral stones, tumors of the kidney, etc., is by *pyelo-radiography*.

In order, therefore, to correctly interpret the X-ray findings made on the living subject, it is essential to possess for comparison, radiographic tracings of normal and abnormal pelves, the interpretations of which are unquestionably correct, because proven by direct examination of the kidney specimens.

For this purpose these drawings and photographs (part of an incompleated series) are being taken from specimens of both normal and pathological kidneys. Corroborative evidence as to the value of this work is illustrated by comparing:

Specimen 15 — A normal kidney pelvis (See Ill. 1, Fig. 6).

Specimen 16 — An infantile kidney pelvis (See Ill. 1, Fig. 14).

Specimen 17 — A horseshoe kidney pelvis (See Ill. 1, Fig. 11).

Specimen 18 — A pelvis of a tubercular kidney (See Ill. 2).

Illustration 3 shows a picture of the kidney and renal pelvis taken from Gray's Anatomy. This is the surgical conception most of us who operate have of the renal pelvis — that it is literally a basin. Looking at the numerous calices in each kidney, their variation not only in size but in irregularity of outline, the fact that they all connect with the pelvis — indeed are practically a part of the pelvis — shows how erroneous, from a practical point of view, is this conception.

Possessing a correct conception of the renal pelvis, its irregularities because of its connection with the calices, the surgeon who attempts to locate renal calculi by slitting the kidney and

searching for the stone with his finger is in the same antiquated class as the man who uses a stone searcher instead of a cystoscope; for he is apt not only to overlook small stones, but dispute radiographic findings which are correct, because the stone is hidden in a calix.

Since the position of renal calculi can be definitely located prior to operation, the surgeon who depends upon his finger to ascertain the presence of calculi will often operate unsuccessfully, and bring unnecessary discredit to the science of medicine, because he needlessly exposes his patient to danger and expense.

It takes years to form a renal calculus as here pictured (Ill. 4). This was removed from W-92, male, aged 27, who, even when working at his occupation (that of a steel riveter, where constant vibration is present), never had pain in the kidney. Treatment was sought for bladder trouble, for which he had previously been treated two years, and which was undoubtedly the result of infection due to the calculus. Clinically, the symptoms and history gave a case of uncomplicated cystitis. The case is presented to demonstrate the three following points:

First — That without cystoscopy and radiography, one would have treated the patient unsuccessfully, as was done, for uncomplicated cystitis.

Second — That with cystoscopy and ureteral catheterization, without radiography, one would have treated this patient as unsuccessfully for pyelitis due to ascending renal infection.

Third — Without radiography, one might have excised the right or infected kidney, when the left might also have contained a stone, though its functional test were normal.

This ever present danger — calculi in both kidneys with symptoms in only one — must be remembered when advocating nephrectomy for calculus.

These three points are based upon one fact: That renal calculi often give no pain. A correct conception of the renal pelvis and calices explains why. Characteristic renal pain is occasioned only when calculi block the urinary exit, and calculi often form and remain lodged in the calices, and therefore do not block the exit, as is well illustrated in this case.

Clinically, a knowledge of the absence of pain with calculi is important. It cannot help but impress upon us that no diagnosis of suspected surgical lesion of the kidney is complete without cystoscopy, ureteral catheterization, cultures, functional tests, and radiography, *separately and combined*.

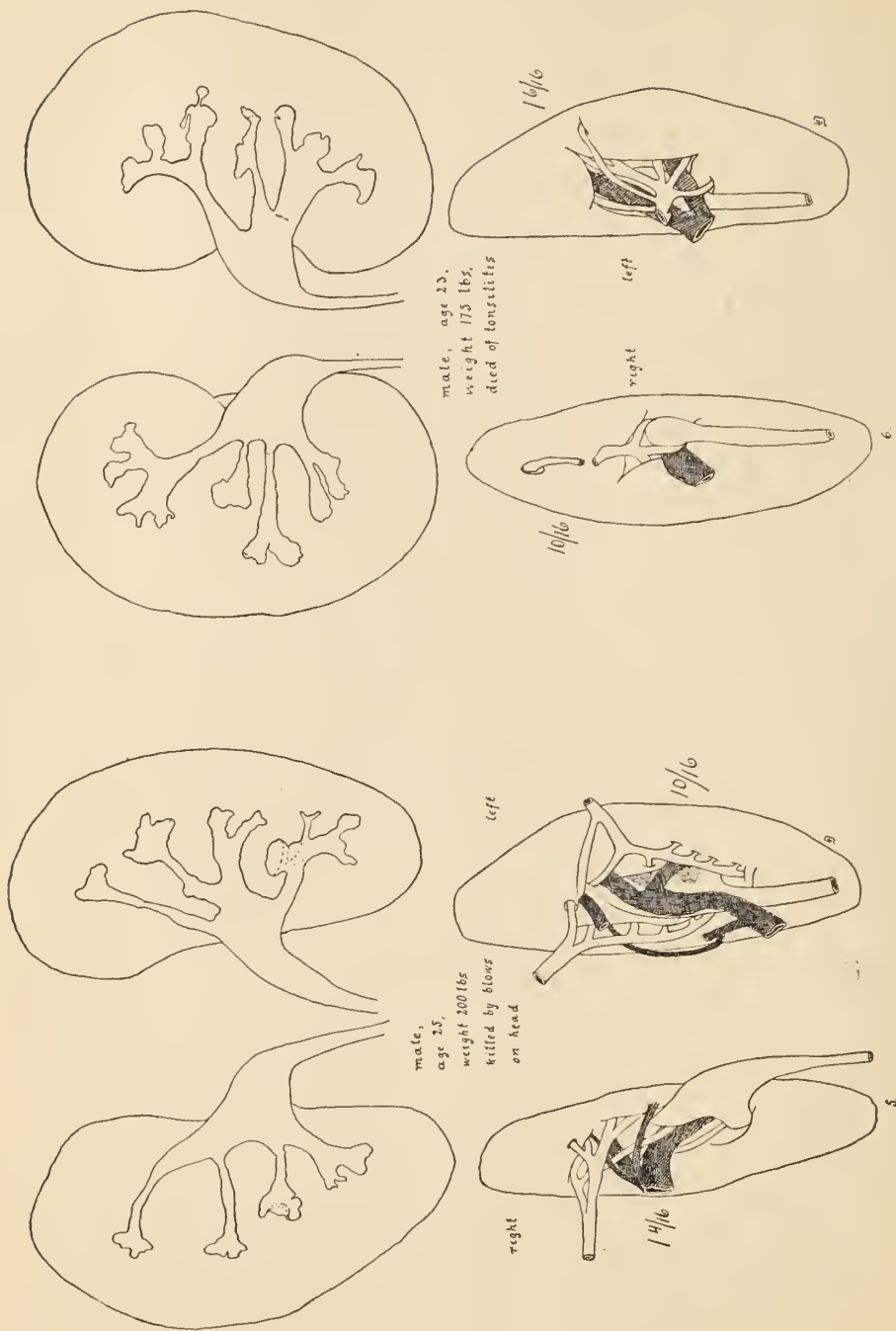


Illustration I—Fig. 5.

Illustration I—Fig. 6.

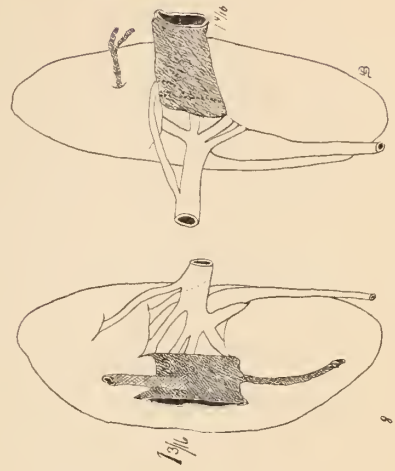
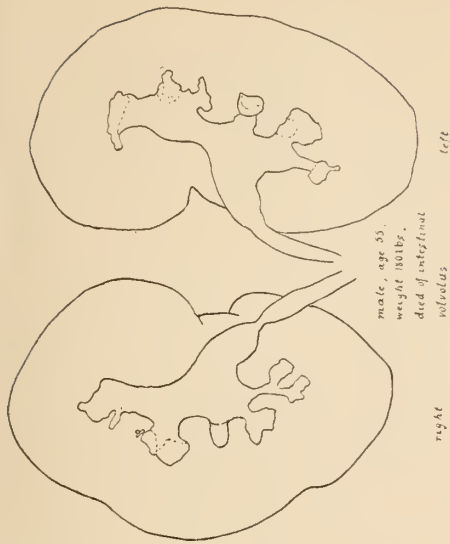


Illustration I—Fig. 8.

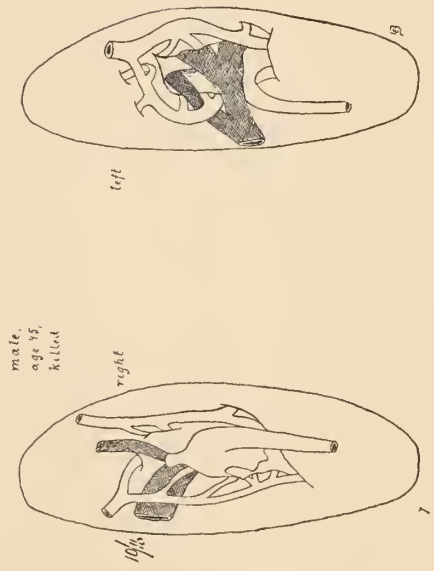
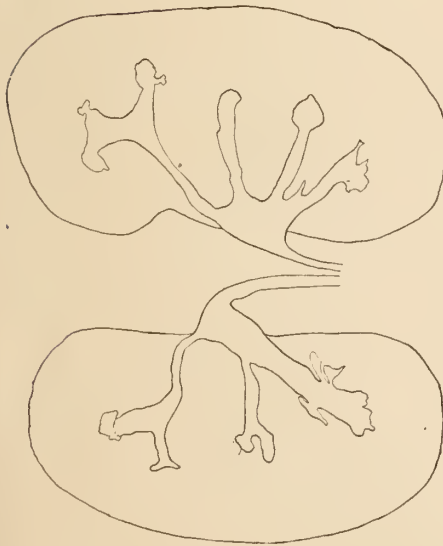
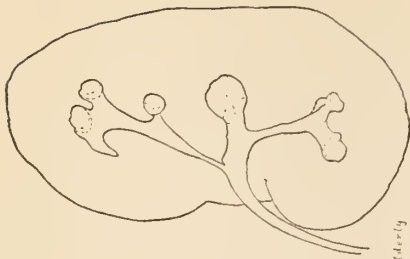
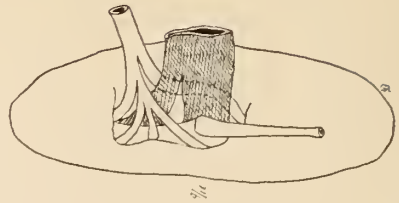


Illustration I—Fig. 7.

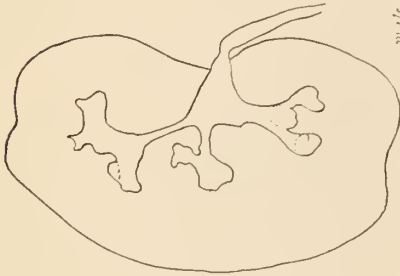




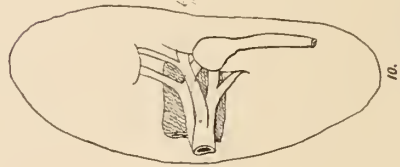
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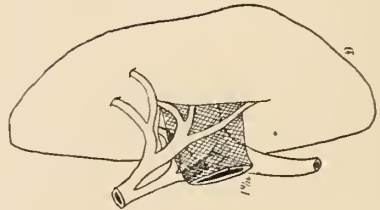
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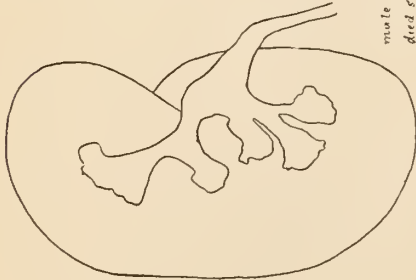
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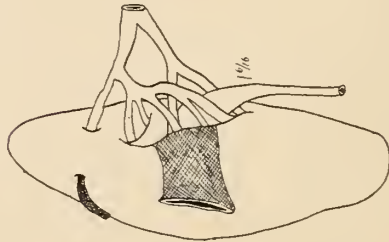
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right



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male, elderly  
died up dead  
heart failure

male young  
died supposedly  
of acute nephritis

Illustration I—Fig. 10.

Illustration I—Fig. 9.

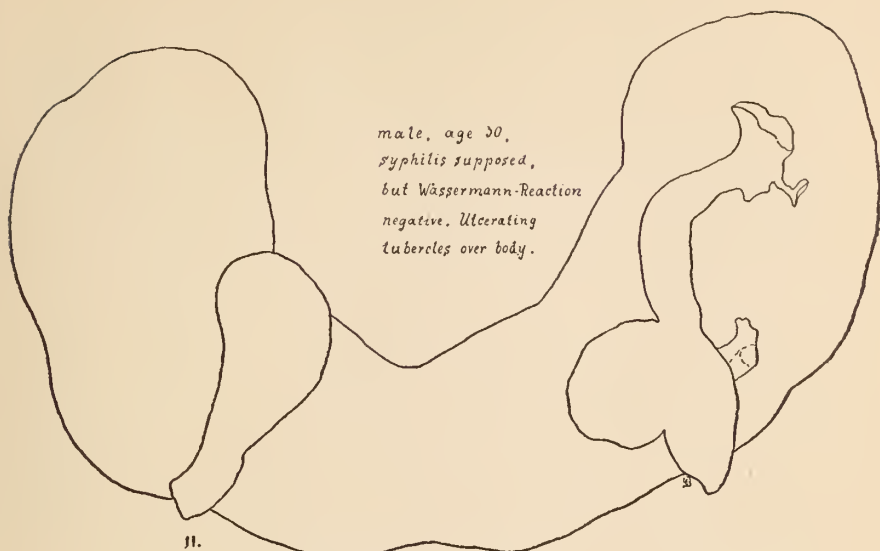


Illustration I—Fig. 11.

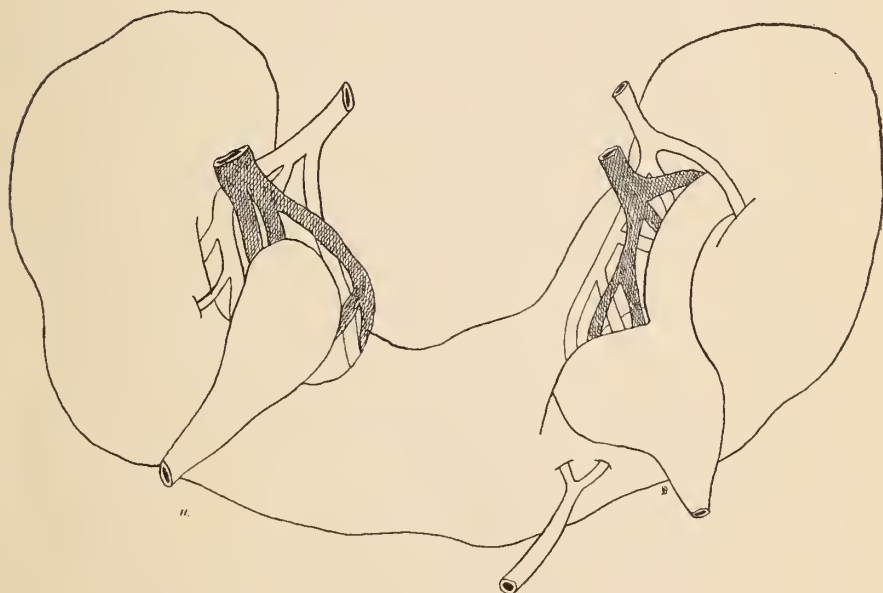


Illustration I—Fig. 12.

The diagnosis by means of pyelo-radiography may often depend upon the character of the outline of the renal papillæ; therefore, the importance of noting that the papillæ project into the pelvis, and that the outline of the projection is semi-circular.

For instance: In hydronephrosis, pyonephrosis, there is back pressure. Back pressure means flattening of the papillæ. The effect of hydronephrosis on the papillæ can be seen by comparing the pyelo-radiograph picture of a displaced hydronephrotic kidney (Ill. 5) with the papillæ in a normal X-rayed kidney (Ill. 1, Fig. 6).

Again, the question arises: Is a palpable tumor in the kidney region a perinephritic abscess or a pyelonephrosis? By pyelo-radiography, the question is often readily solved. For if it is an uncomplicated perinephritic abscess, pyelo-radiography will show a normal pelvis and calices,—information of practical value, as it tells prior to operation that the kidney is to be left alone. On the other hand, if the pelvic outline is not normal, the converse is true, and the operation should include the kidney.

Illustration 6 shows a hypernephroma, Mrs. M-173, and the diagrammatic drawing as to the effect of this growth on the outline of the renal pelvis and calices. With the presence of hemorrhage from such a kidney, and the absence of infection and other pathological evidence in a catheterized urinary specimen from that kidney, the other kidney being normal, would not a pyelo-radiographic picture showing the above encroachment absolutely confirm—such as it were—as can be done by no other means, the diagnosis of tumor in that kidney?

Illustration 7, Mrs. B-258, aged 36: case of prolapsed left kidney with pyelitis; Fig. 1, position of the kidney, patient lying on the back, ureter catheterized; Fig. 2, the extent of movement caused by renal colic as the result of injecting collargol into the pelvis; and Fig. 3, the position of this organ, patient standing.

This illustration demonstrates the value of pyelo-radiography in making diagnosis between congenital shortening of the ureter, a so-called movable, and a floating kidney, and shows splendidly the extent of displacement that may take place in the latter pathologic condition.

#### POINTS IN PYELO-RADIOGRAPHIC CYSTOSCOPIC DIAGNOSIS OF RENAL CALCULI.

1. Not one, but at least two pictures should be made of a kidney supposed to contain calculi. To illustrate: Ill. 8 is an

X-ray plate taken of the right kidney of a normal male subject, aged 36, to accurately demonstrate what we dogmatically teach as to the extent of mobility of the normal kidney. A bismuth catheter with alternating bismuthized and plain silk centimeters was employed, the catheter being soft and pliable in the silk area, which permitted it to move as here shown. The plate was exposed twice, one exposure on deep inspiration, and one on deep expiration. The position of the catheter shows the extent of the movement of the kidney.

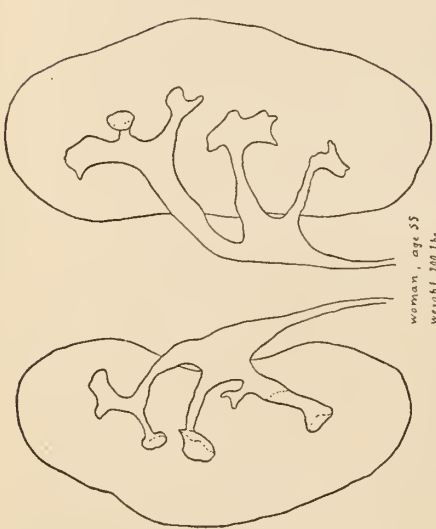
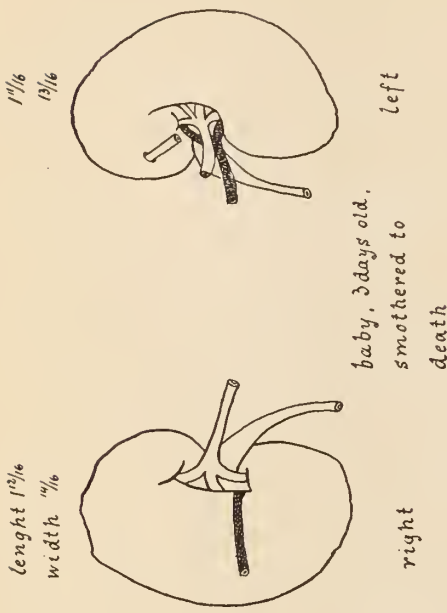
The value of this information is threefold. First, this knowledge of the mobility of the kidney is especially valuable in diagnosing the presence of calculi. For instance, mark the spine of the first lumbar vertebra with a lead letter so as to have a distinct fixed point. Now, taking a radiograph of the kidney, a shadow is present in the kidney area. The question arises, is it or is it not, the shadow of renal calculus?

By taking two radiographs, one on deep inspiration, and one on deep expiration, the fact that the shadow follows the movement of the kidney over an area as here shown, proves that the calculus is in this organ; for if outside of the kidney, the ascent and descent of the kidney would have no effect on the position of the stone. A deduction of practical value to be made here is, in having radiographs of renal calculi made, always insist upon a radiographic picture being taken during deep inspiration and expiration.

Second, this plate shows that the movement of the kidney takes place about an axis which is undoubtedly the blood vessels, corroborating in the living subject the result of post mortem observation as illustrated in the diagrammatic drawing of Dr. K. A. J. MacKenzie, of Portland, Oregon (Illustration 9). This confirms the mechanical theory that many of the symptoms of prolapsed kidney are the result of vascular stasis produced by interference with the blood supply.

Third, being able to ascertain and measure the exact extent and movement of the kidney, we may, as our experience increases, ascertain the extent and character of movement necessary to produce symptoms; then the classification, movable and floating kidney, will cease to exist or have a diagnostic significance of working value.

Not only a radiograph of one, but of both kidneys, should be taken, because the pain may be in the compensating kidney,



woman, age 55  
weight 200 lbs.  
supposed to have  
been struck by  
auto

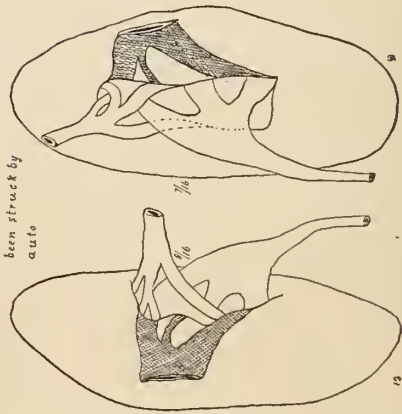


Illustration I—Fig. 14.

Illustration I—Fig. 13.





Illustration IV.

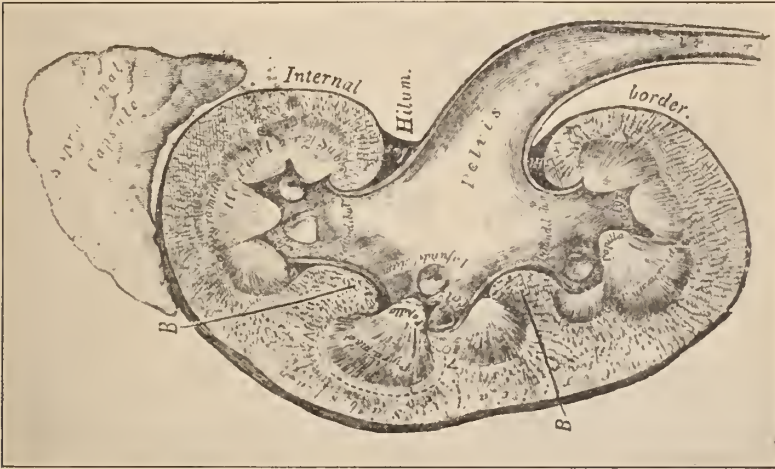


Illustration III.



Illustration II.

and not in the affected kidney. Both kidneys may have calculi, but only one may give symptoms.

The case of Mrs. B-212, age 23 years, with calculi in both kidneys though the symptoms were confined to the right, illustrates this clinical fact. As the necessity for radiography of both kidneys in suspected calculi has already been commented upon, the radiographic picture of the right kidney only (Ill. 10) is here shown to demonstrate another point: the value of ureteral catheterization combined with radiography.

The position of the ureteral catheter shows that it is just in the kidney pelvis, and in contact with the calculus. In other words, a ureteral catheter in contact with the calculus as here shown, brings out the fact that the modern, simple operation of pyelotomy should be substituted for the old and more dangerous operative procedure of splitting the kidney.

How simple the operation is is indicated by the following case:

W-72, male, age 36. Pyelotomy performed and this rather rare calculus, a cystin stone (Illustration 11) was removed; and though the patient's height was 5 feet, 9 inches, and his weight 196 pounds — all muscle, he was walking about on the seventh day after the operation and left the hospital on this day.

Illustration 12 is an X-ray picture showing the arterial supply of the kidneys.

Illustration 13 is an X-ray showing the venous supply of the kidneys.

Illustration 14 is an X-ray showing the result when both veins and arteries are injected in the same kidney.

Illustration 15 shows the anastomosis of the blood vessels in the horseshoe kidney.

These four pictures are presented not only as interesting radiographic pictures, but to demonstrate why pyelotomy is more scientific than splitting the kidney, because of the destruction which must result by the latter method, to the blood vessels, upon which the functional power of the organ depends.

The case of I-19 is presented as an interesting case which demonstrates that in some cases of calculi, results — diagnostic and therapeutic — can be attained only by employing all the modern, up-to-date urological methods. The patient is a male, age 41. This stone (Illustration 16) was removed from the right kidney July 7, 1912. After recovery from operation, there was



Illustration V.

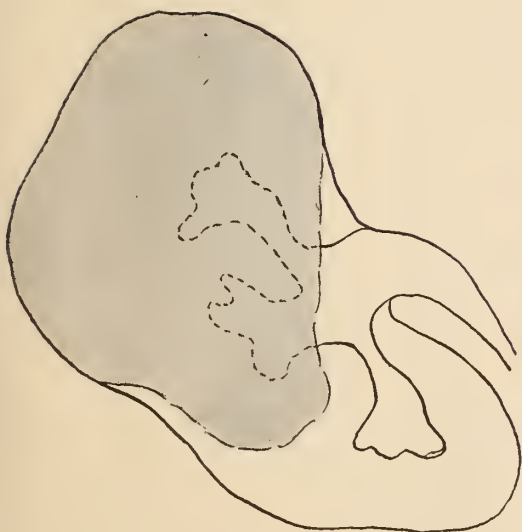


Illustration VI.

no after treatment. Patient was referred because of frequency of urination, headache, etc. Cystoscopy was performed August 11, 1913. Catheterized specimen from kidneys showed as follows:

FUNCTIONAL TESTS OF I-19

<i>Right Kidney</i>	<i>Left Kidney</i>
Acid	Acid
Leukocytes, few	Leukocytes, many
R. B. C. occasional	R. B. C. Numerous
Quantity of Sq. cells	Quantity of cylindrical cells
Numerous casts {	No casts
Granular	
Hyaline	Staphylococci
Bacteria {	
Staphylococci	
Colon Bacilli	No colon bacilli

FUNCTIONAL TEST, PHENO-SULPHO-PHTHALEIN

<i>Right Kidney</i>	<i>Left Kidney</i>
8:45 1 C.C.	3 C.C.
9:04 Pheno-sulpho-phthalein injected	
9:15 unchanged	Red
9:25 unchanged 3 C.C.	Red 4 C.C.
9:35 slight tinge	Red
9:43 pink 3 C.C.	Red 10 C.C.

One can see at a glance that the functional value of the right or operated kidney is practically nil.

1.

Case, B 250

3

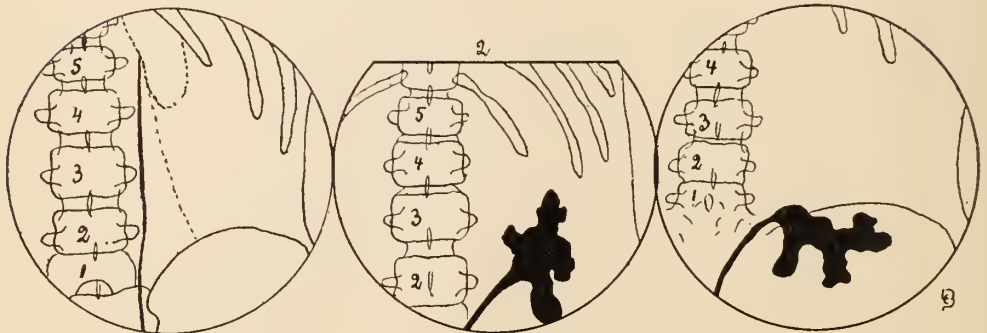
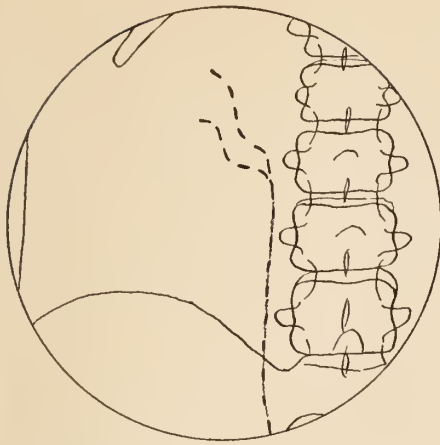
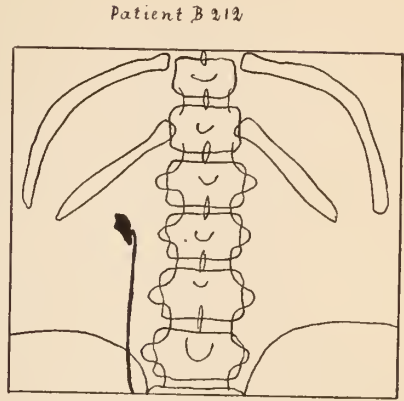


Illustration VII.



*X-ray catheter with alternating opaque centimeters showing movement of kidney*

Illustration VIII.



*Catheter in contact with renal calculus showing that it is in pelvis*

Illustration X.

Now let us look at the pyelographic findings of both kidneys (Illustration 17). Instantly we can see, by comparing the right pyelo-radiographic figure with that of the left kidney, that there is practically no right kidney.

Bladder irrigation, instillation in the renal pelvis of the left kidney and autogenous vaccines, etc., have relieved the patient of all symptoms, and cleaned up the left kidney; but the infection still remains in the right, and in the bladder, and the patient will have to continue bladder irrigation and be under medical supervision until that not only useless but menacing organ, the right kidney shell, is removed.

At the time the diagnosis (that of renal calculus) previous to the operation was made, what would pyelo-radiography have shown? The complete destruction of the kidney, an absolute confirmation of the functional tests of that kidney, and that the only correct surgical procedure was nephrectomy. Consider the time, money and suffering scientific urology would have saved this patient!

Especially this case illustrates that in radiography, if there is a doubt from the shadow cast as to whether or not the shadow is a stone in, or outside, the kidney, we have another means of confirmation besides the movement of the shadow; for if the stone is in the kidney, the silver salt used to cast a shadow will obliterate



the shadow and we would have only the outline of the renal pelvis; whereas if the shadow is outside the organ, it will still appear.

By pyelo-radiography we can show in a pyelonephritic or tubercular kidney (Illustration 18) the presence and extent of abscess cavities, the practical value of which lies not only in one's ability to recognize nephrectomy as the only procedure, but to demonstrate this fact to the patient.

Illustration 19 shows diagrammatic drawings made from X-ray plates to illustrate why the X-ray combined with ureteral catheterization is invaluable in diagnosing ureteral stones.

Fig. 1 — The employment of ureteral catheters with alternating bismuth and non-bismuth centimeters will show on the X-ray plate the exact location in the ureter of the calculus.

If the shadow of the calculus is in contact with the catheter, the stone is in the ureter (Fig. 2). But if it is not in contact with the catheter, the calculus is not, as was formerly supposed, necessarily outside the ureteral canal (Fig. 3). For a ureteral calculus often causes dilation of the ureter, and the calculi will not be in contact with the catheter but in the dilated pouch, being displaced by the passing catheter, and therefore some distance from it.

A like question is to-day easily solved, for pyelo-radiography will give us this picture (Fig. 4), the obliteration of the stone by collargol, and demonstration at the same time of the exact position of the constriction when the position of the dilated pouch is compared with the distance measured on alternated bismuth catheter taken on a separate plate prior to the instillation of the silver salts.

Illustration 20 (Case S-311) is an ureteral stone removed from the right ureter with the ureteral catheter; removal of the stone by means of ureteral catheters may render simple what is otherwise a severe surgical operation.

Illustration 21 is drawings of two ureteral catheters devised for the purpose of removing ureteral stones. The efficiency and cost, but not the durability of the French instrument (that is constructed on the principle of the esophageal instrument used for the same purpose), I can recommend.

Illustration 22 is a picture of bladder calculi obtained during prostatectomy from a patient, B-248, age 64.

Illustration 23 is a radiograph taken of the same patient's bladder a month after operation, and shows why this patient is

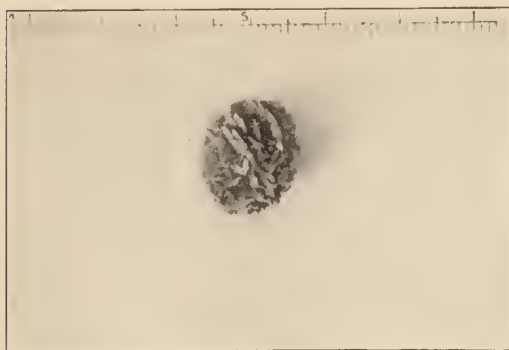


Illustration XI.

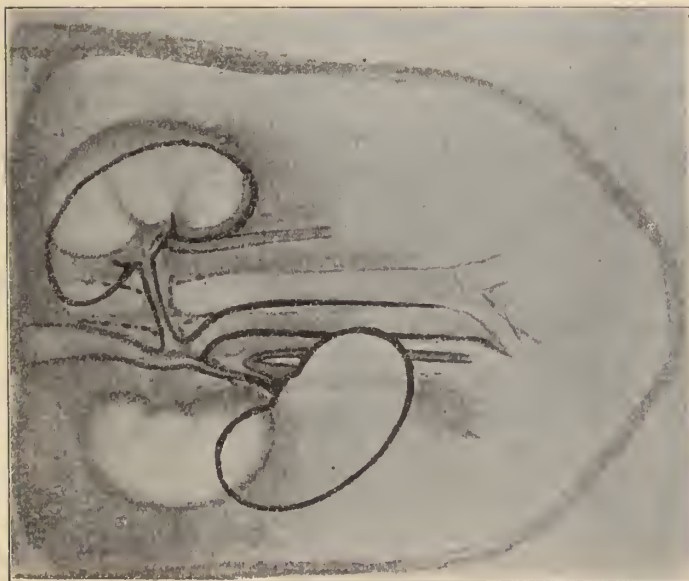


Illustration IX.



Illustration XII.



Illustration XIII.



Illustration XIV.



Illustration XV.



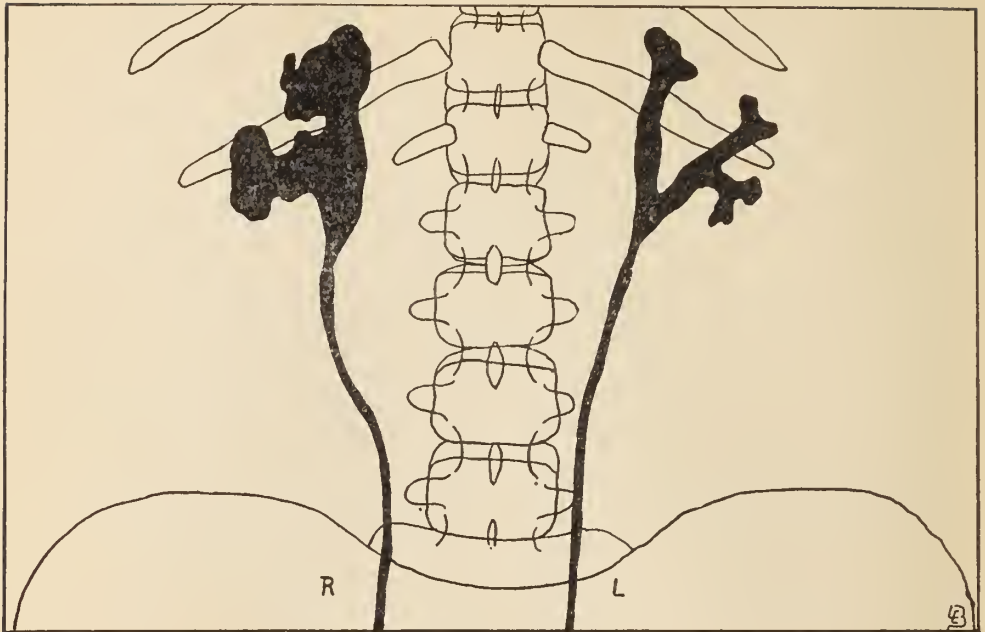


Illustration XVII.

slow in regaining the expulsive power of the bladder. The presence of this lesion — a vesical pouch — demonstrable to the patient does not permit the patient to cast reflections on the efficiency of prostatectomy which he otherwise would have done.

On this same plate, and the cause of my apparent digression, is a radiographic picture of the same bladder distended with oxygen, taken on the same date, showing the presence of a small mass in the bladder composed of mucus, exfoliated epithelium and phosphates, demonstrable only by the X-ray when the organ is distended with oxygen. It is of interest to know, because, by distending the renal pelvis with oxygen, small calculi, which would otherwise be overlooked, may sometimes be demonstrated.

Early in the first series of pictures, you noted drawings of the blood vessels of the kidneys. Out of the twenty-five kidneys shown, fifteen had accessory blood vessels. This great frequency has caused me to follow out and make a matter of routine, a small technical point; that is, when performing nephrectomy, prior to consigning the excised kidney to the specimen basin, to examine it for the presence of these accessory arteries. Then this knowl-



edge, combined with the character and number of ligatures applied, will prevent the quite frequent post-operative hemorrhage, and relieve the anxiety of the surgeon, permitting him a peaceful night's sleep.

Intuitively I feel on your part this instinctive remark: This class of work is all right — scientific and practical for the urologist, but not for the general practitioner and surgeon. Moreover, even many a urologist, you may say, cannot work in his office in this systematic manner, as it requires the upkeep of an expensive organization; all of which is correct.

Let us suppose on the other hand, that he have an orchard under irrigation. It makes no difference whether because of sentiment, forgetfulness, carelessness, sickness, lack of finances, or death — if those trees when they need it do not receive a certain quantity of water, the amount varying not only with the species, but with the individual tree, they will not only fail to produce to their

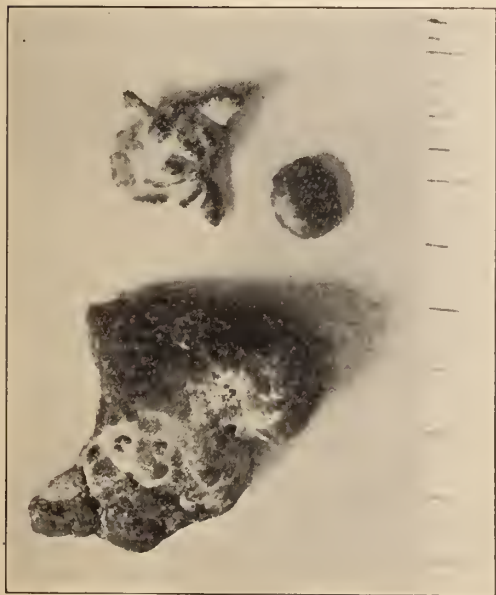


Illustration XVI.



Illustration XVIII.

maximum, but many will perish. Likewise there are accessory demands, pruning, fertilizing, spraying, etc., which are as imperative.

The same is true in caring for disease. Excluding courteousness and thoughtfulness, sentiment plays absolutely no part in scientific medicine. We as physicians must see things as they are, and tell of them as they appear; that is, correctly investigate

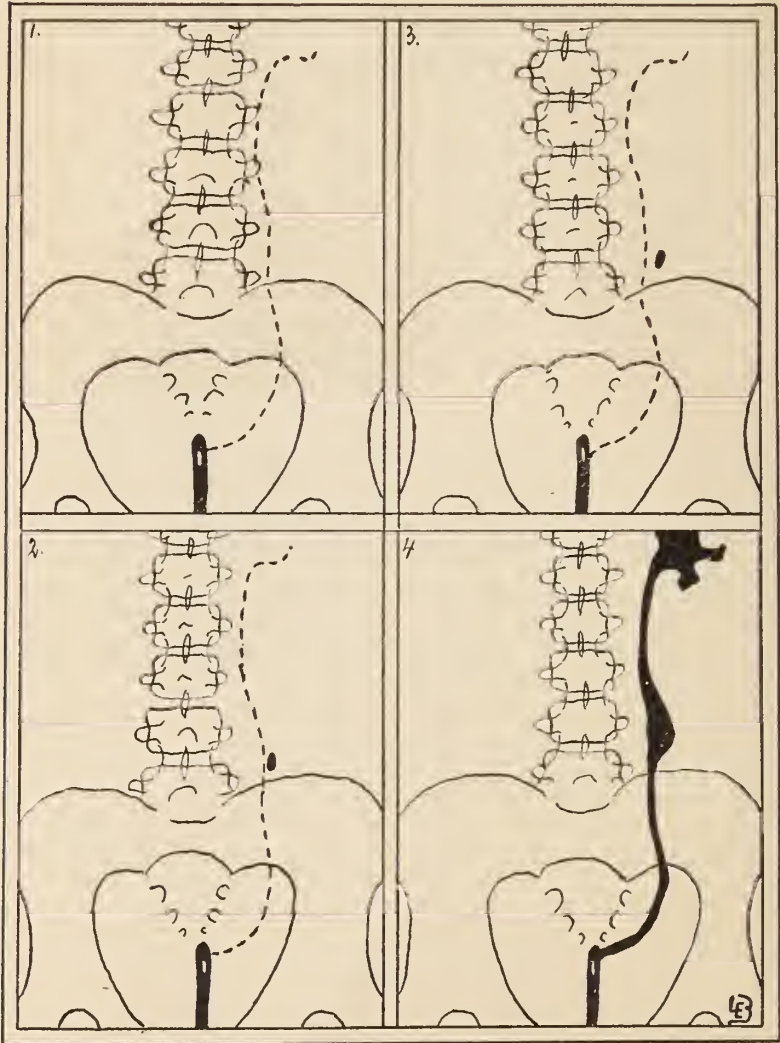


Illustration XIX.

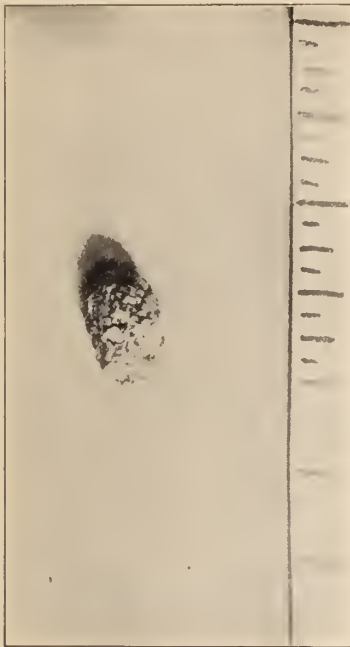


Illustration XX.



Illustration XXII.

and interpret existing physiological and pathological conditions, and then compel ourselves and our patients, irrespective of our sentiments, to follow the dictates of the physiological and pathological laws covering the conditions to be treated. For if we are to be successful and thus advance our profession, we have no option but, like business men, must deal with facts.

The fact exists that maximum results can only be attained through systematization, organization, and equipment. So, in my

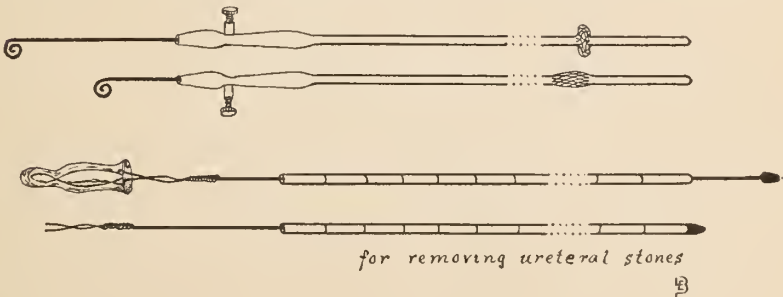


Illustration XXI.

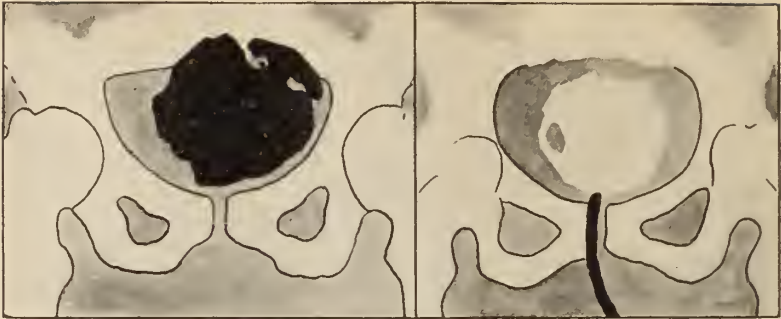


Illustration XXIII.

Bladder filled with silver iodide, showing vesical pouch.      Same bladder filled with oxygen, showing vesical calculus, soft phosphatic mass.

specialty, I have systematized and organized my work, not because I enjoy the expense and care of detail, which is confining, but because I realize that to attain the largest per cent. of maximum results in all cases, I must do so.

As a scientific man, I have no option. Neither have you.

## COITUS INTERRUPTUS

By VICTOR BLUM, M.D., Vienna.

**I**N considering the etiology of the various functional disorders of the male sexual organs we have had repeatedly to speak of, among other injuries that affect the genital functions, interrupted coitus or conjugal onanism. In the following lines we will discuss this form of sexual abuse.

Lallemand says ("Les Pertes Séminalis"): "I mean by abuse any abnormal activity of a function; under the especial expression, 'Misuse of the sexual organs,' I understand any irregular sexual action, which cannot result in the propagation of the species."

Under this definition fall all the injuries considered in the preceding chapter, masturbation in all its forms and abortive excitements. All the abnormalities of sexual intercourse for preventing conception, which have become so terribly widespread, also belong here.

The technical expression for all customs and practices, for the purpose of preventive intercourse, is malthusianism or neo-malthusianism.

The doctrines of the famous English pastor, Thomas Robert Malthus, at the end of the eighteenth century warned against an excessive increase of posterity, since with the increase of England's population in geometrical progression, the time must necessarily come, in which not enough food could be produced by the earth for the increased population. Accordingly he preached sexual abstinence in marriage, a measure, which it is easily understood, cannot be carried out in wide circles of society.

His followers in this social struggle, seeing rightly the impracticability of the original malthusianism, recommended preventive sexual intercourse (John Stuart Mill and Sir Francis Plage). Thus neo-malthusianism arose as a social movement with a scientific basis, the object of which is to prevent overpopulation by the use of preventives against conception.

The specifically injurious effect of interrupted coitus takes



place quite similarly to that of masturbation. Both injuries to the sexual life only cause sexual neurasthenia when they unfold their effects on the basis of an inherited or acquired general neurasthenia.

Coitus interruptus, just as onanism, first becomes the cause of the neurosis, when the abnormality of the sexual life is added as a specific noxa to the already existing neuropathic constitution.

In what then does the injuriousness of incomplete intercourse consist? The opinion was expressed by several authors (Thomson and others) that it could not possibly make any difference in neuropathology whether the semen was deposited in the vagina or in front of it. This idea is to be sure a priori correct: but there is nevertheless this great physiologic difference between interrupted and normal coitus, *that an expression of the will interferes in the course, which is otherwise automatic, of the reflex processes constituting the normal sexual act.*

The man's thoughts (and also the woman's) are concentrated during coitus on the danger of the act, upon the taking care that the moment of seminal ejaculation is not missed. But that means at once a disturbance in the course of the genital reflexes; a voluntary influence interferes in a reflex act, which should be physiologically withdrawn from the sphere of the will.

The inclination exists in interrupted coitus to postpone ejaculation as long as possible; and thence often results according to our experience the well-known disorder, *ejaculatio retardata*; that is, it happens finally, after long habituation to incomplete congress, that the movements of coitus must be continued an immoderately long time in order to increase the stimulus sufficiently to produce ejaculation. In still further advanced cases psychic aspermatism can result.

The disturbance in sexual potency usually occurs differently among masturbators. In solitary onanism the desire is usually to bring the act as soon as possible to ejaculation. It is the patient's aim on account of the secret and abominable nature of the action to bring it to an end as quickly as pos-

sible—just the opposite case from interrupted coitus, where the movements of coitus must be continued until the orgasm also occurs in the woman.

Hence, while in conjugal preventive intercourse retarded ejaculation occurs regularly as the disorder of the *potentia cœundi*, just the opposite affection occurs in the masturbator, acceleration of the ejaculatory reflex (*ejaculatio præcox*). [Our experience in this respect differs from that of the author's. In practically every case of sexual disorder due to coitus interruptus which we had to treat, the trouble was *ejaculatio præcox*, and *not* *ejaculatio retardata*.—W. J. R.]

But some characteristic results are common to both these forms of sexual abuse, the effects of which we have here compared with each other. The sexual act is completed in these sexual abnormalities with the coming of ejaculation, of the moment which was awaited with the tensest expectation.

But normal cohabitation ends with the closing act, orgasm during the energetic contractions of the perineal muscles and the rapid depletion of the genital organs. In normal coitus there is a relatively rapid depletion of blood from the copulatory organs under the influence of the discharge of the highest tension and with the most voluptuous feelings.

This last act of sexual congress is neglected by all forms of sexual abuse. The voluptuous feelings are more or less suppressed by various voluntary ideas which intervene. The worst self-reproaches, feelings of disgust and vows come into the masturbator's consciousness from the beginning of ejaculation. The orgasm is also crowded out in interrupted coitus by other thoughts and feelings. And thence result disorders, which are common to both forms of sexual abuse. *Orgasm is absent—the psychic discharge of the high-strung, libidinous feelings is missing.*

Further the energy of the mechanical process of ejaculation suffers; the semen is no longer thrown out by powerful contractions of the muscles of the bulbous urethræ, but drops off slowly; the depletion of the genital organs is deficient, and the erection of the penis continues, somewhat diminished after the act. Finally the abnormal sexual act has a wholly different effect on the frame of mind from normal coitus.

The old proverb: "post coitum omne animal triste" (after coitus every animal is sad), is, as a rule, only true for sexual abuse. With the masturbator each new act of his vice causes a revulsion in his soul; the remains of moral and esthetic feeling struggle against the power of a sexual error; the greater the momentary state of exhaustion after the act of onanism, so much the greater is the despair and depression, which may still further heighten all the symptoms of neurasthenia.

Thence result neurasthenic conditions, which S. Freud on the basis of their characteristic symptomatology and pathogenesis has attempted to mark off from general neurasthenia as an independent clinical picture—the *fear neurosis*.

He found, that in all the clinical histories, in which anxiety occurs in a dominating degree in any of the clinical forms, an unsatisfied sexual desire (from *coitus interruptus*, etc.) may be discovered as the chief etiologic factor;—"anxiety is essentially libido diverted from its proper use." Coitus interruptus becomes especially injurious for the man, when he voluntarily directs the coitus, and postpones ejaculation in order to satisfy the woman. "In men, however, interrupted coitus produces only rarely a pure anxiety-neurosis, but generally a mixture of it with neurasthenia."

Besides the psychic sequelæ here briefly considered, which are liable to follow habitual interrupted coitus, we still have to consider some somatic, functional symptoms, which may accompany habitual masturbation and conjugal onanism or incomplete congress.

As we have already remarked, the act of sexual abuse does not end with a complete depletion; a congestion of the penis with partial erection persists for some time, and in the woman there is a hyperemia of the internal genital organs.

But the hyperemia of the male sexual organs forms a permanent irritation, which reaches the spinal and sympathetic centers for the sexual functions, and an irritative state results sooner or later, which we designate as neurosis of the lumbar cord.

The congestive swelling of the mucous membrane of the posterior urethra also leads to symptoms from the urinary or-

gans. We have mentioned that often extremely torturing forms of irritable bladder, polyuria, and dysuria can be produced by irritations of the posterior urethra.

The energetic contractions of the muscles of the bulbous urethræ also suffers from the incomplete ending of the act of coitus, so that the semen oozes out slowly from the urethra without the usual projectile force.

We can also occasionally notice the insufficiency of these muscles in urination.

The contractions of the perineal muscles fail at the end of urination, so that the last drops of urine, which remain in the urethra, do not jet forth with the familiar "coup de piston," but dribble out slowly.

I have regularly observed in such patients this symptom of "urine-dribbling," which often frightens our sexual neurasthenics very badly and may become the source of various hypochondriac ideas; they also complain of deficient projection of the semen, and onanism or *coitus interruptus* could always be established as the cause of this "dribble-neurosis."

[I go much farther than most authors in my opposition to coitus interruptus. I consider it one of the most pernicious phenomena of civilized life. It is more important a cause of sexual neurasthenia than all other causes combined.

W. J. R.]

## BOOK NOTICES

**SYPHILOLOGY AND VENEREAL DISEASE.** By C. F. Marshall, M.D., M.Sc., F.R.C.S., Late Surgeon to the British Skin Hospital; Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars; formerly Resident Medical Officer to the London Lock Hospital. Third edition, pp. 465. Wm. Wood & Co., 51 Fifth Avenue, New York.

A very valuable and up to date text-book for the general practitioner.

**TREATMENT OF NEURASTHENIA.** By Dr. Paul Hartenberg. Translated by Ernest Playfair, M.B., M.R.C.P. Pp. 283, \$2.50. Oxford Medical Publications. Henry Frowde, and Hodder & Stoughton, London.

This is a book which will repay careful study, both by the urologist and the neurologist. For neurasthenia, especially the sexual variety, is seen as often by the former as by the latter, and in view of the fact that this disease with its protean manifestations is constantly on the increase, any volume which gives some practical suggestions for handling the disorder is a valuable acquisition to medical literature, and Dr. Hartenberg's Neurasthenia certainly does contain numerous practical points.

**SEXUAL ETHICS: A Study of Borderland Questions.** By Robert Michels, Professor of Political Economy and Statistics at the University of Basle. Pp. 296, \$1.50. Chas. Scribner's Sons, New York.

When Mars is on the rampage Venus is hiding in the shadow. In the presence of a world war sexual questions and all other abstract questions lose their interest. Everything not connected with the war, or with practical utility, seems foolish and superfluous. Nevertheless after a while life begins to make its demands, and those not directly affected by the war begin to live their regular routine life. In more peaceful times "Sexual Ethics" by Professor Michels would have attracted considerably more attention than it does now, for it is a book well worth reading. To the conservatives the author would seem too radical, to the extreme radicals he might appear conservative, but the book will be read with interest by both conservative, moderate and radical.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR

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VOL. XI

FEBRUARY, 1915

No. 2

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## EDITORIAL ANNOUNCEMENT

**T**HE subject of diseases and disorders of the urinary and sexual systems has been gaining in attention of late years. Its importance, so long ignored or underestimated, is at last being recognized. For several years there has been felt the need of a journal devoted to genito-urinary and venereal diseases and suitable not only for the specialist but for the general practitioner as well.

The American Journal of Urology, Venereal and Sexual Diseases has been trying in its humble way to answer this need to the best of its ability. It has met with a fair degree of success. We have felt, however, that the time has come to enlarge the scope and the audience of the Journal, and for this reason we have purchased The American Practitioner, a journal of general circulation now in its 49th volume, and have consolidated it with this journal. This gives the Journal at once a large general circulation and increases its usefulness.

Our contributors will also feel that by contributing to our pages they get at once an audience not only of those specializing in urology and venereal diseases, but also of a large number of general practitioners. We are sure that the step we have taken will meet with the approval of all concerned.



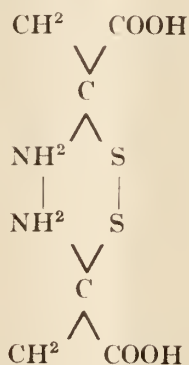
## CYSTINURIA AND CYSTINOUS LITHIASIS

By MARCEL BENOIST, M.D., Toulouse, France.

**C**YSTIN is found in urinary sediments and the calculi of cystinuric subjects and also very probably in the blood of all patients with cystinuria, according to Desmoulière. It also exists in a state of combination in the majority of both animal and vegetable proteid matters.

Cystin can be extracted from the calculi and cystinuric urine or it may be obtained by hydrolysis of horn products. To extract it from calculi and urinary sediments one first crushes the stone and the dust thus obtained is digested in 10% hot ammonia. At the end of an hour it is filtered and left to evaporate spontaneously, as heating would injure the crystals. Cystin can also be precipitated from the ammoniacal solution by acetic acid according to the method of Gaskill, modified by Williams, Wolf and Desmoulière. The latter technique is the best and also gives a more precise estimation.

The formula of cystin is:



Cystin is a solid colorless substance, without odor or taste, crystallizing in hexagonal plates, two parallel sides of which are sometimes longer or shorter than the other four. These crystals, united and grouped in every direction, possess very distinct points and are so typical that they cannot be mistaken for any other.

Heated on a platinum plate, cystin burns in melting until it has completely disappeared (indicating an organic composition) giving off a perfectly characteristic odor, some comparing it to that of phosphorus, hydrocyanic acid, sulphur, sulphureted hydrogen or garlic. Cystin burns with a violet flame like that of potassium.

This body is almost entirely insoluble in water and urine, alcohol, chloroform and ether, but it dissolves in alkalies, such as potash and soda, in the salts of calcium, baryte, lithium and strontium, in the alkaline carbonates but not in ammonium bicarbonate which precipitates it.

Nitric, sulphuric, hydrochloric, phosphoric and oxalic acids form with cystin more or less crystallizable salts, soluble in water and with bitter taste. In reducing cystin by tin and hydrochloric acid cystein or d-amidothiolactic acid is obtained, a white crystallized powder which is distinctly distinguished from cystin by its looks, solubility in water and acetic acid, which easily reproduces cystin by oxidation.

In order to search for cystin in a urinary sediment a small amount of the deposit is collected and heated on a platinum plate; the odor to which it gives rise, garlic-like in nature, will at once draw one's attention, and a search will be made for the various properties above indicated. Mester's procedure is generally employed for the estimation of cystin. Its principle is as follows: *the total sulphur and the completely oxidized sulphur* is first estimated (sulphates and phenol-sulphates). The difference between the two results gives the estimate of *the incompletely oxidized sulphur* which comprises the cystin, plus the other nonoxidized sulphur elements of the urine. Estimations calculated at regular intervals by several chemists have shown that in cystinuria from fifty centigrammes to one gramme of cystin are eliminated in twenty-four hours.

The crystals of cystin, insoluble in the urine, become agglomerated about a nucleus composed of epithelial cells, leucocytes, lumps of pus or red blood cells, with the result that gravel is formed, which, by successive appositions, becomes a calculus. These calculi form more particularly in the bladder and out of thirteen cases of cystinous lithiasis that I have been able to collect, ten were formed in the bladder. However, gravel may form in the kidney and the little girl that was under my observation in the service of Prof. Jeanbrau had, a few days after suprapubic cystotomy had been done for calculus, a paroxysm of dysuria which ended by the exit of a calculus the size of a small pea. Now, at the time of operation, after the stone had been removed, Prof. Jeanbrau explored the bladder with the finger and found it empty. Nothing is easier than to verify the vacuity of the bladder, especially in a child, in whom the reservoir is more abdominal

than pelvic. Therefore, it must be admitted that the small stone passed several days after the operation had formed in the kidney.

In 1901, Raw showed a cystin calculus coming from the kidney and ureter, while of all the cystin calculi in the Hunter Museum at London, there is only one from the kidney.

Cystin calculi are very rare, to such an extent that the museum of the Necker Hospital does not contain a single example, and Pousson is of opinion that in all there have been about fifty cases reported. Usually the calculus is single, while in size it varies from that of a pea to a walnut or a small hen's egg. In my case referred to the calculus was the size of a sugar-plum and weighed seven grammes. Willis has published a case in which the stone weighed 150 grammes. This is the largest on record.

Cystin calculi are oval in shape, with a granular or mammate surface, covered with crystals with dull angles. They are a lemon yellow in color and on section their surface appears waxy like resin. They are friable and are easily crushed, rendering the blades of the lithotrite sticky.

In order that a cystin calculus shall form, it is necessary that the patient present a cystinuria. The agglomeration of the cystin crystals then follows independently of any microbial infection, as in uric, oxalic or phosphatic lithiasis. It, therefore, remains to discover the origin of the cystinuria and to begin with let it be said that climate has no influence whatsoever.

Heredity is undoubtedly an important factor, for cystinuria has been observed in several members of the same family. Consequently, it is a familial disease. Here are some examples: Abderhalden met with cystinuria in three brothers, sons and grandsons of cystinuric subjects. Pfeiffer observed cystinuria in two brothers and two sisters, their father was gouty, the mother healthy. The same writer having observed a man forty years of age afflicted with cystinuria, examined the urine of two sons of the patient, aged respectively ten and four years. Both were found to be cystinurics.

A vegetable diet, particularly rich in leguminous varieties, is, according to Pletzer, a factor of cystinuria. This theory has not been proven.

There remains the question of a diathesis, analogous to the arthritic diathesis, generatrix of all diseases called by Bouchard "maladies par relentissement de la nutrition." It is probable that this hypothesis is correct. The researches undertaken by Des-

moulière on one of Gaucher's patients and followed for a long time, allowed him to suppose that a primal cause governs the cystinuria and the diaminuria. Perhaps their origin may be in a functional disturbance of the liver. For Desmoulière there exists a *cystinuric diabetes*, similar to true diabetes. Further research will some day discover which are the glands whose functional disturbances lead to this affection.

However, it is necessary to refer to other hypotheses which have been put forward, but whose reality has not been demonstrated. For Moreigne cystinuria is of hepatic origin, while Baumann and Udransky consider that it has an intestinal and microbic origin. And lastly, Külz has considered it as being an affection of pancreatic origin. This theory is based on this experimental fact that one can obtain cystin by submitting fibrin to the action of artificial pancreatic juice. All things considered, it is evident that the place of formation of cystin in the organism is as yet unknown.

The manifestations of cystinuria and cystinous lithiasis offer absolutely nothing in particular; their symptoms, accidents and complications are quite identical to those of uric or oxalic lithiasis. Consequently, we have nothing to say on this point, since the symptomatology of vesical stone is perfectly familiar to all.

Pure cystinuria, that is to say without an associated urinary infection, produces no symptom and passes by totally unnoticed. It is only when nephritic colic or accidents of infection arise that the physician's attention is directed to the urinary apparatus. In both cases it is the histological examination of the urinary deposit which allows the chemist to suspect cystinuria. However, when cystoscopy is done in a patient whose bladder contains a cystin calculus its nature can very well be suspected and when the instrument reveals a yellowish, semi-transparent crystalline stone there is pretty good evidence that the calculus is composed of cystin. But the diagnosis can only be affirmed by chemical analysis.

In the cases I have been able to collect, it was evident that nephritic colic was the symptom most often noted. These colics had occurred during six years in André's case, four in Rafin's patient. In young children as in our case above mentioned, it is impossible to say whether or not there are nephritic colics. The first symptoms are vesical phenomena due to the cystitis so frequent in children during attacks of enteritis.

The attacks of nephritic colic followed by the expulsion of gravel occurred in Moreign's, André's, Rafin's and Beal's cases, or there were symptoms of vesical stone with or without cystitis in Jeanbrau's, Gamgee's, André's, Rafin's, Loumeau's, Viannay's, Mester's, Riegler's, Guyon and Chabrié's, Reynaud and Héraut's cases. Such are the clinical manifestations of cystinous lithiasis, so it becomes clearly evident that, other than the chemical nature of the concretions, there is no particular sign to be noted.

Can a cystin stone be detected in the body by ordinary means? We have seen that cystoscopy permits one to suspect the cystinous nature of the stone, but at present radiographic examination is the surest means, not only for detecting the presence of a renal calculus or one in the ureter, but also of estimating its size, number and location. The very remarkable technique employed by Arcelin of Lyons permitted him to estimate to within 10 to 15 centigrammes the weight of small concretions, entirely by the extent and opacity of the shadow furnished by the stone. Is it possible to detect cystin calculi by radiography and, if these stones give a shadow, is it possible to differentiate this shadow from those of other calculi?

In 1906, Morris recorded radiographic examinations of cystin calculi which showed him that these concretions are opaque by radiography. This notion has been confirmed by the researches of Arcelin, Viannay and Lamy. The following is quoted from the thesis of Lamy (Nancy, 1911):

"The fragments of the cystin calculus removed by Rafin were radiographed by Arcelin with two other calculi. one a pure uric acid stone, the other composed of urate of sodium, all three having nearly the same dimensions. These fragments of cystin, to which were added two other concretions eliminated before the operation, gave a shadow whose characters placed it between that of the pure uric acid calculus and that of the urate of sodium stone.

"This result in contradiction with the theoretical ideas, is certainly explained by the presence of a small amount of calcium phosphate in these (cystin) calculi.

"Dr. Viannay has had the opportunity to radiograph before operation the little patient from whom he removed a cystin calculus. The proof was distinctly positive. The stone upon analysis contained only 3% of mineral matter.



" Another radiograph of a voluminous vesical stone removed by Viannay from a young adult in June, 1909, also gave a very marked shadow on the negative. It is true, adds the record, that the calculus contained a much larger proportion of mineral matter, viz.: 32%.

" We ourselves wished to clear our notions on this interesting point and, profiting by the happy circumstance which was offered us by having a certain quantity of fragments of a crushed cystin calculus, we endeavored to personally explain the action of the X-ray on the cystin.

" Thanks to the kind help of our friend Dr. Hauriot, we undertook the following experiment: On the same photographic plate we placed five calculi of known composition, all being about the same size; we also added just about the same amount of fragments of the cystin calculus from Prof. André's case. (These pieces were placed in a small paper wrapper.)

" The source of electricity was placed at a distance of 40 centimeters from the plate: the time of exposure about one minute. We thus obtained a superb negative revealing the structure of these calculi and their different degrees of opacity.

" Benoist's radiochromometer, which had been placed on the same sheet, showed that the cystin stone measured in hardness from 4 to 5.

" Although we did not operate under the same conditions as would be present in a human subject, taking into consideration the differences due to the opacity of living tissues, likewise of the lime salts which usually enter into the composition in varying amounts in a cystin calculus, we were able to note that in this particular case the cystin stone was opaque to the X-ray."

From these researches one may conclude that a stone giving a shadow is not composed of pure cystin. When to the latter phosphates and carbonates are added, the stone becomes opaque, its phosphatic envelope giving a shadow on the plate.

The treatment of cystinuria includes: (1) Hygiene; (2) dietetic regimen; (3) medicinal treatment. By doing away with the cystinuria the cystinous lithiasis is also prevented.

Exercise in the open air, dry frictions of the entire body, vapor-baths, hot baths of dry air charged with turpentine vapor, are recommended.

At the beginning, starting from the idea that cystin is a

sulphur derivative, writers on the subject advised abstention from food containing this substance, that is to say eggs, the cruciferous types of vegetable and certain leguminosæ. Prof. A. Gautier, considering cystin as a derivative of uric acid, states that the use of bread in these cases should be carefully watched, and better still to substitute boiled potatoes. "Bread acidifies the blood by the phosphorus and sulphur it contains; it brings nucleins with it and, consequently, enriches the fluids in uric acid bodies."

It is now conceded that the amount of animal food should be small; game should not be allowed at all, likewise preserved meats, condiments and spices. As a drink, the diuretic waters of Evian, Vittel and Contrexéville are indicated. Fermented drinks and alcoholic beverages are absolutely to be forbidden.

The alkalies, having the property of rendering cystin soluble, are indicated. Ségalas diminished the cystinuria in a young girl by the continuous use of soda bicarbonate at a moderate dose. Magendie also obtained good results from its use. Marcet prescribed sodium citrate and sodium oxalate for a woman who could not take the bicarbonate. In 1885, Beale treated with success several cases of cystinuria with ammonium carbonate, but in our case, that of a little girl three years of age, its use was without effect after a trial of eight months. Desmoulière also doubts the action of this salt.

#### CONCLUSIONS

1. Cystin is a sulphur base, only present in the slightest trace in normal urine.
2. Cystinuria is the elimination, in the urine, of a certain quantity of cystin in a soluble or nonsoluble form. Cystinous lithiasis is the result of an agglomeration of crystals of cystin in the form of gravel or calculi in the urinary tract.
3. Cystinuria results from glandular disturbances as yet not understood, perhaps particularly the liver. These disturbances, like diabetes, gout, etc., modify the intimate life of the tissues and produce a kind of cystinuric diabetes. (Desmoulière).
4. The symptoms and the diagnosis of cystinous lithiasis differ in no way from those of urinary lithiasis in general.
5. The treatment of the cystinuria and consequently the cystinous lithiasis is still obscure. The alkalines (ammonium carbonate) have given some results. Hepatic opotherapy merits to be tried.

A COMBINATION CYSTOSCOPE: EXAMINING, DIRECT  
CATHETERIZING, INDIRECT CATHETERIZING  
AND OPERATING

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**T**HE requirements of a cystoscope are: first, that it will do the work for which it is intended with the greatest ease to the operator and the least discomfort to the patient; and second, that it be simple in construction.

Obviously it is an advantage to combine in one cystoscope features which enable the operator to examine the interior of the bladder, to catheterize the ureters either by the direct or the indirect method, and to perform certain operations on the bladder and ureters.

The cystoscope illustrated, while pretending to offer no new features, combines the above mentioned ones.

It consists of a sheath (Fig. 1), an obturator (Fig. 2), an ocular window for direct examination (Fig. 3), a double catheter guide for direct ureteral catheterization (Fig. 4), a telescope and catheter guide for indirect ureteral catheterization (Fig. 6), and an ocular window with perforation (Fig. 5), for operating with various instruments (Fig. 7).

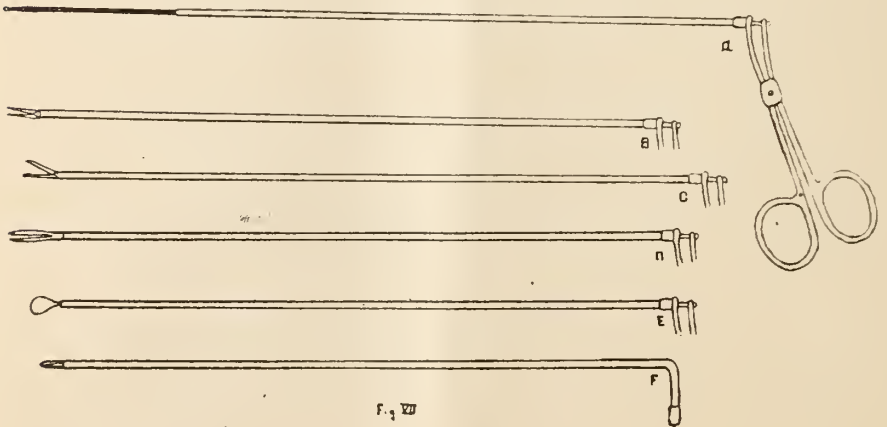
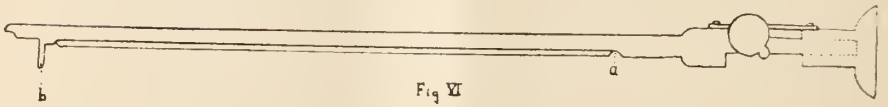
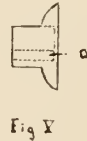
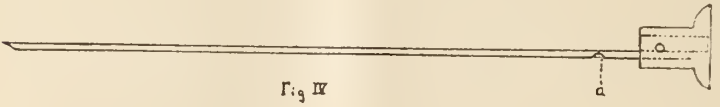
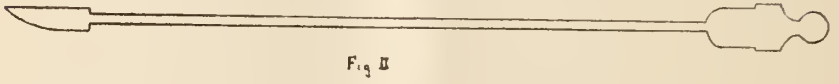
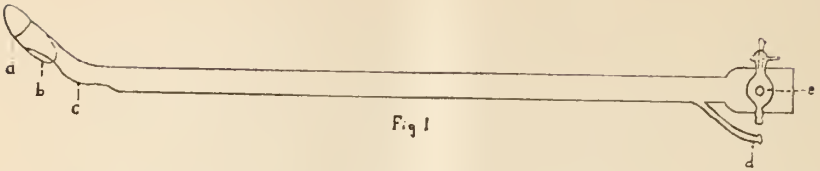
The caliber of the sheath is 24 French, the catheter guides take a 6 French catheter, while the operating instruments are all 9 French.

The sheath consists of a beak (*a*), in which is placed a cold light (*b*). The perforation (*c*), is on the convex side, thus it does not necessitate rotating the cystoscope for ureteral catheterization.

The catheters enter at (*d*) and the catheter guides may be removed without disturbing the catheters. A stop cock, (*e*), is placed on either side for irrigation, which may be continuous.

The ocular window, (Fig. 3), fits snugly into the proximal end of the sheath, and gives a direct view of the interior of the bladder through the entire lumen of the cystoscope, thus affording an extensive field of vision.

The catheter guides for direct ureteral catheterization are firmly attached to the ocular window, which in turn fits snugly into the sheath. The catheters, after entering the cystoscope, (*d*, Fig. 1), pass into, or rather under, the guides at the point *a*, (Fig. 4), and out at the distal end. As each guide forms only



a semi-circle, they may be removed without disturbing the catheters, as stated above.

The telescope for indirect catheterization, (Fig. 6), contains a corrected image lens system. The catheters pass under the guides at *a*, and are deflected by separate catheter deflectors (*b*). This telescope may also be used for indirect examination.

The ocular window for operating, (Fig. 5), is the same as the examining ocular window, except that it is perforated, (*a*) for the passage of the instruments.

The instruments are similar to those devised by Dr. Bransford Lewis, and consist of a flexible ureteral forceps, (*a*), for removing calculi from the ureter, if not more than two inches from the opening; an alligator forceps, (*b*), for grasping and crushing calculi; a small scissors, (*c*) for cutting; a dilating forceps, (*d*), for stretching ureteral stricture; a snare, (*e*), for removing small pedunculated new growths of the bladder; and a bladder cautery, (*f*).

#### ADVANTAGES

The advantages of this cystoscope are:

1. Simplicity of construction.
1. Small lumen.
3. Large field of vision.
4. Continuous irrigation.
5. Combination of examining, direct and indirect ureteral catheterization and operating.

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#### ADVANCES IN THE TREATMENT OF GONORRHEA.\*

By S. W. MOORHEAD, M.D.,

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**A**T the very outset it may be stated that the advances which have been recorded in the last ten years are paltry, if we understand by the term new methods of treatment or new remedies for internal administration or local application which are capable of working a cure in a few days. If, however, we understand by the expression a crystallization of our knowledge of the manner in which the old and tried remedies work, and of the best manner of their employment, something may be said, and it is to this aspect of the subject that your attention is invited.

\* Therap. Gazette.



The first step in determining upon a method of treatment of gonorrhoeal urethritis is the acquisition of a clear conception of the nature and extent of the disease process. Typically gonorrhoea is an infection of the whole urethra after the end of the first week. Of course there is some difference as to the date at which infection of the posterior urethra takes place, it being earlier in virulent infections than in those of mild degree, but in the great majority of cases posterior invasion does take place, and at a comparatively early date. Reports of series of cases in which the majority of patients suffered from anterior urethritis only are probably founded on diagnoses based on symptomatology alone, or on symptomatology plus a cursory, not to say prejudiced, examination of the urine; for it is possible for the typical symptoms of posterior urethritis to be entirely absent, and for the cloudiness of the second urine to be barely discernible, and yet for the posterior urethra to be the site of disease.

From the time of the onset of symptoms, gonorrhoea is an infection of the submucous tissues rather than a mere surface inflammation. As there is no known chemical germicide capable of penetrating the tissues and acting on the gonococci as they lie buried beneath the surface of the mucous membrane which will not as well injure the mucosa to an unwarrantable degree, it is evident that the elimination of the disease can only be accomplished through the natural protective and reparative powers of the tissues, or possibly through employment of certain physical agencies.

The problem set us, therefore, is the eradication of a disease situated in the mucosa and submucous tissues, and according to the duration and virulence of the attack in either the anterior urethra alone or in both the anterior and posterior portions of the canal. Also it must be borne in mind that the differentiation of the disease as a pure anterior urethritis, rather than an anteroposterior urethritis, is of importance only if the gonococci can be eliminated within a few days of the time the patient is first seen, as otherwise, no matter what treatment is instituted, in the great majority of cases the infection will inevitably travel backward and involve the whole canal.

As already stated, we are unable to use any chemical germicide for the eradication of the gonococci owing to the non-existence of any suitable substance so far as our present know-

ledge goes; we may therefore dismiss from our minds all thought of producing a cure by such means. Of the means remaining the chief is the germicidal power of the body tissues, and it is to the proper management of this that our efforts should be directed.

Gonorrhœa, like most local infections, is cured as a result of the inflammation excited by the presence of the organisms or the remedies used in the treatment of the case, the gonococci being destroyed through the antibacterial action of the blood and lymph, an increased supply of which is provided by the inflammatory reaction. In the early stages of a urethritis the reaction is commonly too severe, and as such an inflammation seems to have a less powerful antibacterial action than one of milder degree it is necessary to employ measures which shall soothe the tissues. For this reason the urine should be rendered bland and copious in amount by the ingestion of large quantities of water. The exhibition of drugs other than those designed to correct the reaction of the secretion appears to be of doubtful value. Moderate limitation of the diet and of bodily activity are valuable for the same purpose. As to the local applications to be made, only the most soothing should be used at the beginning of the attack. It is probably on account of their non-irritating nature that the various organic silver preparations have met with such favor in the treatment of the acute forms of the disease. At any rate the choice lies between these silver salts and other preparations of an equally bland nature, such as solutions of sodium chloride, sodium bicarbonate, ichthyol, potassium permanganate, boric acid, etc.

Later when the acute inflammation has subsided, which it commonly does long before the eradication of the gonococci, it becomes necessary to use remedies of a more irritant character in order to increase the hyperemia and so bring about a sufficiently antibacterial condition of the tissues. The proper selection of these remedies and the determination of the proper concentration of their solutions test the skill of the surgeon to the utmost.

Before passing to the subject of chronic gonorrhœa, a few words may with propriety be said on the subject of the treatment of cases seen very early—that is, in the first twenty-four to forty-eight hours after the onset of symptoms. At this time by appropriate treatment it is frequently possible to shorten the course of the disease so that a cure is effected in a few days.

The most valuable of the numerous methods of treatment which have been advocated, because it produces a high percentage of cures, and because it aids rather than complicates further treatment in the event of its non-success, is that advocated by Ballenger, of sealing a freshly prepared 5 per cent. solution of argyrol in the urethra by means of collodion. The matter is brought up here in order to emphasize the fact that the action of the drug in this case is not to be considered a contradiction of the theory previously propounded that the cure of gonorrhoea is never accomplished through the germicidal action of the injected drugs, but only by the action of the tissues on the bacteria. It is absolutely incredible that a drug which will not cause the death of an organism under the unfavorable conditions found in a test-tube will do so when that organism is buried in the tissues of the urethra, its natural habitat. Rather it is reasonable to assume that the argyrol acts on the urethral and periurethral tissues in a manner to produce the greatest possible antibacterial reaction in those tissues.

Concerning the subject of chronic gonorrhoea, it is sufficient to say that the modern precept is to find and eradicate the chief focus of the disease. Both of these things may be difficult to accomplish, yet they are necessary for the intelligent treatment of chronic gonorrhoea; and they should be done in the order mentioned. Fortunately, in the newer urethroscopes, especially that of Mark for the anterior urethra and that of Buerger for the posterior, the last few years have yielded real advance in the treatment of chronic gonorrhoea.

Two physical agencies remain to be mentioned. Their value is as yet not fully established, but they promise to give good results when their uses and limitations are more definitely determined. The first of these is heat. As the lethal point of the gonococcus is variously stated to lie between  $104^{\circ}$  and  $113^{\circ}$  F., a temperature of  $120^{\circ}$  F. maintained for thirty to sixty minutes by means of a sound heated by electricity or hot water should sterilize the tissues in the vicinity of the urethra so far as this organism is concerned, as it has been found to do in some instances.

The second agent referred to is the galvanic current, by which ions of such metals as silver, zinc, and copper may be carried into the periurethral tissues. The method is applicable only to chronic conditions of the urethra.

The above statement of our present conception of the treatment of gonorrhœa was suggested by the varied and frequently bizarre suggestions which appear in our medical journals from time to time. A few of these are the following:

No local treatment whatever, as local treatment is to be regarded as the cause of all the complications of gonorrhœa, and 90 per cent of patients will recover in three or four weeks by the administration of eopaiba alone.

Injections of 4-per-cent silver nitrate as a means of aborting an attack.

Suprapubic cystostomy, with irrigation of the urethra in the natural direction of the urinary stream.

Perineal fistulization, for the purpose of putting the anterior urethra at rest.

Insertion into the urethra of wicks impregnated with cultures of the lactic acid bacillus.

Administration of methylene blue by mouth; cure in four to seven days.

Injections of tincture of catechu (15 minims to water 1 fluid-ounce) four times a day by the physician in person, for its astringent action, and for the purpose of reducing the pabulum of the gonococci.

Placing the gonorrhœal discharge on the tongue of the patient suffering from the disease, or as a matter of prophylaxis on the tongue of one who has been exposed to infection.

In accordance with the principles outlined above, my local treatment of acute urethritis is as follows:

If the patient is seen on the first or second day of the discharge, the abortive treatment referred to is at once instituted. It consists in—

Cleaning the penis.

Anesthetizing the meatus by laying across it cotton wet with 10 per cent. cocaine.

Injecting 25 minims of a freshly prepared 5 per cent. solution of argyrol.

Pressing the lips of the meatus together, and sealing them so with flexible collodion applied with a camel's-hair brush or a cotton swab.

The patient is directed to allow the solution to remain in the urethra for six hours. At the end of that time he is to remove the collodion and urinate. The collodion may be removed

with acetone, or by pulling on a tuft of cotton or a small piece of gauze included under the margin of the dressing at the time of its application. The cotton must not be allowed to lie over the meatus, as in this case the argyrol would leak out. The patient is also directed to abstain from the ingestion of fluids till within an hour of the time for removal of the dressing, from which time he is to take water freely till within four hours of the time for the next treatment, when he should again limit the fluids in his diet in order to be able to hold his urine for the required length of time, six hours. The meatal secretion is examined each day before the injection is administered. Gonococci have usually disappeared by the third day. If they are still present on the fifth day the treatment should be abandoned.

The whole course of treatment consists of five injections, on five successive days, after which, if successful, three days are allowed to elapse before administering the beer or other test as a proof of cure. The method has proved successful in the hands of its originator and other men in from 80 to 90 per cent of cases.

If the patient applies for treatment too late to make an attempt at abortion advisable, or in the event of the failure of abortive treatment, the following treatment is instituted: The anterior urethra is thoroughly cleansed with an irrigation of one per cent. sodium chloride, and the patient is instructed in the management of a urethral syringe, the sodium chloride solution being used in the manipulations. Then according to the acuity of the process a prescription is given for argyrol 5 per cent., or protargol 0.25 or 0.5 per cent, the first being used when the inflammation is most severe. Injections are to be made three or four times a day, and retained for five minutes. Occasionally, in the presence of inflammation of great severity, no injection is prescribed for home use, but the patient is advised to take hot sitz baths, night and morning. At subsequent visits to the office, which are preferably made daily, the urine is carefully examined, and the irrigation with sodium chloride solution repeated, the strength of the solution being gradually increased to 3 per cent. As soon as clouding of the second urine shows infection of the posterior urethra irrigation of the whole canal by hydrostatic pressure is instituted, at first with hot weak solutions of sodium chloride, later with stronger solutions, or solutions of potassium



permanganate (1:6000 to 1:3000). All irrigations are given as hot as is compatible with the comfort of the patient.

Usually injections of protargol are substituted for the argyrol before the end of the first week of the treatment, protargol being preferred by the patient on account of its greater cleanliness and by the physician on account of its greater efficiency in the less acute conditions. The latter drug is used in strengths up to one per cent. These hand injections may be continued throughout the course of the disease, or discontinued in the second or third week, according to the apparent benefit derived. In the last days of the discharge, after the disappearance of the gonococci, injections of one per cent. zinc sulphate or zinc acetate may be used with advantage.

Usually with this treatment the more acute symptoms are over by the end of the first week, and by the end of the second there is very little discharge, though gonococci are still present in considerable numbers. These do not often disappear altogether till the end of the fourth or fifth week. If they persist longer it is usually on account of involvement of the prostate, so that the secretion of this gland should always be examined in the event of the persistence of a gonococcal discharge.

1523 PINE STREET.

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### BLADDER IRRITABILITY IN WOMEN\*

BY WILLIAM H. CARY, M.D., F. A. C. S., Brooklyn, N. Y.

**I**RRITABILITY of the bladder, as evidenced by frequency of urination and dysuria, is a common complaint among women. It demands our study, because apart from its possible painfulness it is a most annoying disorder curtailing the liberty of the individual and interfering with sleep. Furthermore, the complex etiology makes the problem one of peculiar interest.

Bladder irritability may arise from so many causes that urinalysis and cystoscopy should be routine procedures in such gynecological cases as present this symptom. While elaborate cystoscopic work must be done by the expert, the gynecologist of to-day must at least familiarize himself with the examining cystoscope; otherwise, causes of bladder symptoms will be misinterpreted or ignored. Instruments are now obtainable which

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\* Read before the Brooklyn Hospital Alumni Club, 1914. *Amer. Jour. Obstetrics*, Feb. 1915.

enable such examination to be made in the office with little discomfort to the patient and with little trouble to the examiner. The instrument I have used with general satisfaction is the simple examining cystoscope of the Nitze pattern, number 15 French scale. The male length is preferable. This is provided with the Zeiss lens. Such a small caliber cystoscope may be readily passed in the most sensitive patient, and a brilliant, clear, corrected field is presented. A converter is necessary in the outfit and may be bought for \$7.

*Etiology.*—Probably the most interesting feature of bladder irritability is its etiology. In considering this subject I shall exclude cases in which the irritability is due to frank acute inflammatory conditions of the urinary tract or are dependent on gross pathology in or adjacent to the bladder. In such cases the bladder symptoms are obviously secondary, and a consideration of them would involve an important discussion, but one not properly belonging to my topic. There are times when increased frequency of urination may be accepted as practically a physiological condition. The congested trigone of the later weeks of pregnancy is common but seldom persistent. In some women frequency of urination occurs during the menstrual week but is confined to that brief period. In others, the sensitiveness of the bladder is abnormally increased by cold, and psychic and sexual disturbances. The cases which most often become our problems are those complaining of long-standing irritability in which urinalysis is normal.

*Trigonitis.*—One of the most frequent causes of bladder irritability in women is chronic, local cystitis involving the trigone. Chronic trigonitis may exist simply as a congestion of this area, or a low-grade colon bacillus and, less frequently, a staphylococcus infection may be present, involving the superficial layers. Text-books usually state that trigonitis is an end result of acute cystitis. In my experience this is not true. More often there is no history of previous bladder trouble. A very frequent exciting cause is incomplete emptying of the bladder: this is generally conceded to be the effect when cystocele is present. Frequently, when cystocele is not noticeable in the dorsal position, catheterization will demonstrate residual urine and examination in the standing position will show a sagging bladder. The trigone by its position and partial fixation is peculiarly exposed to trauma and contamination in the female and its rich nerve

and blood supply make it sensitive and susceptible to infection. The trauma incident to operation and catheterization often results in trigonitis or posterior urethritis. I have never been able to prove clinically that the gonococcus is responsible for chronic trigonitis nor has pathological examination shown it. In some instances it may be that an acute inflammation predisposes this area to the more chronic infections. Continued hyperacidity of the urine, due to lessened water intake or errors in diet, is occasionally found in cases where other factors are not discovered, and this fact should be noted in the history and in the urinalysis as one of the items to be reckoned with. In adolescence friction of the external genitals may be an exciting cause.

When inflamed, the natural redness of the trigone is intensified, it bleeds easily on the slightest touch of the cystoscope, and the out-standing blood-vessels converging at this point are lost to view in the diffuse redness. At times minute vesicles appear on the surface at the bladder neck. There is a rare type of trigonitis in which yellowish-white areas appear in the congested region. The last-named cases seem intractable to any form of treatment. Commonly, however, chronic trigonitis responds readily to instillations of silver nitrate preparations. The two-way\* catheter of Dickinson is especially serviceable in treating this condition. The bladder is emptied and an injection may be made with but one manipulation. To be most highly effective the subsequent emptying of the bladder should be deferred at least an hour after the injection has been made. In cases of bladder prolapse the organ must be supported by operation or pessary or relapse may occur.

There is a condition occasionally met with which causes mild irritability of the bladder and which cannot properly be termed trigonitis. It may more correctly be termed varicosity of the trigone. The patients with this condition are always free from irritation when lying down. On cystoscopic examination the veins of the trigone may be seen and the degree of their distention varies with the position of the patient. Some of these cases are amenable to treatment which supports the bladder base, but applications to the bladder base are of course useless. When measures directed to the relief of trigonitis are not followed by improvement examination may reveal that chronic posterior urethritis is the condition causing persistence of the symptoms.

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\* *American Journal of Urology*, June, 1912.

*Posterior Urethritis.*—Posterior urethritis is frequently associated with trigonitis, especially in those cases where residual urine is not the etiological factor. It may be present as an independent condition and endoscopic examination of the urethra should be part of the routine investigation of all cases of bladder irritability. (For this purpose I use the Furniss endoscope made by the Wappler Company of New York.) Posterior urethritis is recognized by the brilliant streamy red and easily bleeding condition of the mucous membrane of this part of the urethra. The degree of inflammation may vary from simple congestion to evident infection. Women, unlike men, seldom develop posterior urethritis from acute infection of the urethra; more frequently it is insidious in onset, chronic in character, and the persistence in some cases is doubtless fostered by chronic infection of Skene's glands by the colon bacillus or gonococcus. Women, as well as men, may develop an irritability of the posterior urethra, which is shared by the bladder, due to frequent periods of prolonged eroticism.

*Irritations about the Meatus.*—Bladder irritability may arise from irritating lesions about the meatus. Chronic infection of Skene's glands may be the focus of such irritations. When the gland is visible externally it is seldom overlooked. But in some instances the presence of such inflammation will be unnoticed unless the meatus be everted by the finger tips. This inflammation is very persistent and cure is most readily brought about by direct application of the cautery. The treatment of this condition was discussed in a previous article.\*

Eversions of the mucous membrane of the urethra, conditions simulating hemorrhoid, and caruncle may all be exciting factors in bladder irritability. Under these circumstances painful urination is a more pronounced symptom than frequency. It should be said, however, that chronic inflammatory conditions may exist at the meatus with surprisingly few bladder symptoms, and their presence cannot be definitely accepted as the cause until other possible factors have been excluded.

*Association with Other Pelvic Lesions.*—Physicians who do not make examinations of the bladder and the urethra a part of their routine procedure often assume that bladder irritability may be attributed to any lesion, major or minor, which may be

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\* CARY: Conservative treatment of gonorrhoea in women, *Am. Jour. Surg.*, December, 1911.

found to exist in the pelvis. Study has led me to conclude that such lesions are seldom directly influential, save in those acute conditions when exudates in the cellular tissues of the pelvis involve the bladder structure or make pressure upon it.

*Neuroses.*—Bladder irritability is often considered a neurosis, but careful study will disprove this assumption. When existing as a so-called neurosis, frequency of urination is the only symptom and will not be present to the extent of disturbing sleep, though it may be troublesome when the patient is lying awake. In typical cases it annoys the patient chiefly if proper conveniences are known to be lacking or if any unusual excitement is experienced. To be considered a true neurosis other symptoms are present which aid in the diagnosis, and examination will exclude such causes as have been enumerated above.

*Tuberculosis of the Kidney.*—This subject should not be closed without referring to bladder irritability as a symptom of incipient tuberculosis of the kidney. While it is commonly understood that tubercular infection of the kidney is manifested by pus and blood in the urine, in early cases of cortical infiltrations, these may not be detected and frequent examinations of catheterized urine should be undertaken in the study of these obscure cases. If at times small amounts of pus are found, irritability may be dependent upon a common cause, either early tubercular infection or nephritis.

#### CONCLUSIONS.

Bladder irritability *per se* excludes acute inflammatory conditions of the urinary tract and conditions which may be considered as physiological and concerns cases of frequent urination and dysuria in which urinalysis is normal.

Contrary to the usual teaching, trigonitis often exists without history of previous bladder trouble. The presence of cystocele, evident only when patient is standing or sitting, may prevent emptying of bladder and cause an irritating residual urine which acts as exciting cause. The location of the trigone makes it peculiarly sensitive to trauma and infection, hence the irritations following operation and catheterization. Continued hyperacidity of the urine and friction of the external genitals may be contributing causes. Chronic trigonitis usually responds readily to instillations of silver-nitrate, and the two-way catheter is used most successfully in treatment.



Posterior urethritis exists much oftener than is commonly stated. It is easily recognized in endoscopic examination. Women seldom develop posterior urethritis from acute infection but it may be rendered persistent by infection of Skene's glands with colon bacilli or gonococci. It may be excited by prolonged eroticism.

Irritability may arise from lesions about the meatus and here inflammation may be persistent but usually yields to direct cauterization.

Eversions of the mucous membrane of the urethra, conditions simulating hemorrhoid, and caruncle may all be exciting causes but may also exist without giving rise to bladder symptoms.

Association with other pelvic lesions is seldom influential in bringing about bladder irritability except in circumstances that involve the bladder structure or cause pressure upon it.

Bladder irritability may rarely be considered a pure neurosis. Repeated examinations of the urine may disclose a cause for irritability in nephritis or in a tubercular infection of the kidney.

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#### SAFEGUARDING IN PROSTATECTOMY\*

BY SOUTHGATE LEIGH, M.D., F.A.C.S., Norfolk, Va.

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UP to a comparatively short time ago the subject of prostatectomy has been a "bug-bear," not only to the general practitioner but to the surgeon as well. Even in the hands of the expert there was always much doubt as to the outcome. This, of course, was due largely to the fact that the patients were usually old, with poor resisting power, with bad bladders and kidneys and often in bad general condition, both mentally and physically. And yet, without operation what was there to hope for? The starting of catheter life was usually the beginning of the end. Some conservative surgeons, unwilling to risk the dangers of the radical operation, temporized by supra-pubic drainage. But this was only a makeshift and served to render the patient more miserable. Many an old man with a constitution good for his age, has gone prematurely to his end for the lack of a simple and safe procedure for the handling of prostatic obstruction. The best operators the world over have been

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\* Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914. *So. Med. Jour.*

experimenting with various methods of relieving the situation, first one of simple mechanical obstruction, but later rapidly developing into a dangerous condition on account of complications and physical suffering. It is not necessary, before this audience, for me to picture the distressing condition of the old men with enlarged prostate and its attendant troubles, both physical and mental. We have all of us seen and pitied them and hoped for the day when surgery could offer a safe method by which they could be handled.

Of course the surgeons have very properly complained that such cases have usually waited too long, have not applied promptly for relief while yet in safe physical condition. The general practitioner could very well reply that the surgeon was to blame for not being able to offer a method of handling these cases in a safe and more practical manner. However that may be, the fact remains that in the past there has been untold suffering and going to pieces of the old men with prostatic hypertrophy, and that those who were finally driven to apply to the surgeon usually came when they were practically "played out," from infection and other complications. If every man with beginning prostatic enlargement could be induced to seek surgical relief, the problem would be a much simpler one. But we all know that practically all of them go on for months and even years with an increasing amount of residual urine and do not apply for relief until there is either complete retention or infection.

As before stated, the condition of this class of cases has been most distressing and the result of operation both as regards physical suffering as well as mortality has been far from encouraging.

The problem confronting the surgeon has been a complex and difficult one. There has been nothing especially hard about the operative procedure, but the burden on the surgeon has been to make it safe and free from distressing features.

I believe that the time has finally arrived when we can say to these patients that they can be looked after with practically no risk, with comparatively little discomfort and with a bright outlook for a prompt and permanent cure. In the plan which I shall describe briefly, there is nothing entirely new or original, but rather a combination of simple and safeguarding methods.

The preparatory treatment is of the utmost importance and requires one or two weeks or even longer. The patient's general condition both physical and mental is looked after thoroughly,

the heart, blood vessels, stomach and kidneys being all gotten in the best possible shape. The mental condition is often of extreme importance. The patient should be kept bright, lively, hopeful and generally in good spirits. Nothing will militate more against success in the cases of old people than despondency. The bladder has to be washed out twice a day and the catheter used even more frequently, if necessary, strict cleanliness being observed. The drinking of large amounts of water is of prime importance. If catheterizing is painful or difficult it is often wise to make a preliminary supra-pubic opening either under local anesthesia or under nitrous oxide oxygen for drainage and irrigation. The patient should not be kept in bed. In the subsequent operation the same wound is used, being stretched by the finger and enlarged further when necessary. Not until the patient has been gotten in the best condition possible in his case is the radical operation to be performed.

By far the most important part of the operative procedure is the anesthesia. Ether has a particularly bad effect on old people. One never knows when to expect trouble from it. It irritates the kidneys (the chief danger in prostatic cases), it irritates the lungs, it upsets the stomach and it leaves the patient in a miserable mental condition. Chloroform is, I believe, safer, but we all fear its depressing effect on the heart, and it has practically been given up in the best clinics. It also depresses the patient mentally and more or less upsets the stomach.

Nitrous oxide oxygen is ideal. It works better in the old than in the young. It seems to me the older the patient, the better he takes it. It is pleasant to smell and taste. The patient goes under almost instantly and wakes up, wide awake, practically as soon as the mask is removed. While the dressings are being applied the patient will talk intelligently with the operator. The good effect of thus promptly regaining consciousness is wonderful. It makes the patient much brighter and most hopeful. This is of the utmost importance in old people. There is rarely any nausea. The heart's action is not depressed at any time during the anesthesia. The breathing is regular and smooth. The color throughout is a natural pink. If at any time there is the slightest trouble with the anesthesia the mask is raised and the patient regains consciousness at once and can be again put to sleep with only two or three minutes delay.

From nitrous oxide oxygen we have never found the slightest

bad effect on the patient either directly or indirectly. It has only one disadvantage, and that is that it requires an expert to administer it properly and safely.

In these cases we usually give, one-half an hour before the operation, a hypo of morphia, grain 1-6. In the operative procedure we infiltrate the tissues, "before the knife," with novocaine 1-8 per cent.

The operative method is most simple and rapid. A small supra-pubic opening is made. Then two fingers of the gloved left hand are inserted into the rectum to lift up the prostate. The forefinger of the right hand is passed into the bladder, ungloved. With the finger nail the mucous membrane just in front of the prostate is cut, the capsule torn and the gland quickly peeled out of its bed. This is usually done in two or three minutes. The gland is sometimes removed entire and sometimes in pieces. Small retractors are now inserted and the cavity packed and compressed for a few minutes with dry gauze. One or more sponges wet in very hot water are then compressed into the surface to stop oozing. If the bleeding is not thoroughly controlled the surface can be sutured, the wound being enlarged for the purpose. This is rarely necessary.

A tube is now inserted, the bladder wall sewed around it and the wound closed.

The after treatment is carried out with strict attention to detail. The bladder is washed out every four hours for several days, and if the urine is at all bloody an astringent solution, such as alum, is used as needed.

The patient is rubbed frequently, his position changed often and he is given an abundance of water and simple food and kept in a cheerful frame of mind. He can be gotten up in a rolling chair the day after the operation, if desired, though we usually keep him in bed for a few days, using the head rest to prop him up.

In one or two weeks the tube is removed, and the wound heals properly. Irrigation of the bladder, first through the tube and later through the urethra is kept up until the urine is in good shape.

Our results, using these various safeguarding and simple methods, have been most satisfactory. Our patients, however old they may be, have practically not been sick at all, and have healed up perfectly and promptly, with good results.

## PYELITIS.

By B. R. McGRATH, M.D., Grand Island, Neb.

**P**YELITIS is a subject of growing importance in medical and surgical literature. The disease is a comparatively common one, and if the microscope were used regularly in routine examination of urine, it would be considered more common than is now the case.

It is of all grades, from a very slight catarrhal condition of the pelvis of the kidney and correspondingly slight constitutional symptoms, to deep-seated infection of that structure, with kidney infection, ureter infection, bladder infection, and grave septic symptoms.

Some authorities insist that there can be no such thing as a pure pyelitis; that inflammation of the pelvis of the kidney is invariably associated with the inflammation of the kidney itself. Keyes classifies as follows:

1. Catarrhal pyelo-nephritis.
2. Suppurative pyelo-nephritis.
3. Pyo-nephrosis.
4. Abscess of the kidney.

He states that with the exception of those rare cases of abscess which begin in the renal parenchyma and do not implicate the pelvis, suppurative nephritis does not occur without pyelitis, nor does pyelitis, whether catarrhal or suppurative, occur without nephritis. Cases that do not show evidence of kidney involvement though there is constant presence of bacteria in the urine and pus present a part or all the time, he seems to classify entirely under the head of bacteriuria. Guiteras, though stating that the two conditions are usually associated, describes them separately. This is a point that may be left to the pathologist to decide. It serves to impress upon the practitioner the close association that may mean, in time, the development of a chronic nephritis or the destruction of a kidney by suppuration.

The bacteriology of pyelitis and pyelo-nephritis is quite extensive. Practically all the pus-forming bacteria have been found in this disease. The colon bacillus is the most common by far. The report by David of the findings in a bacteriological study of fifty cases of non-tuberculous diseases of the bladder and kidney.



shows the relative frequency of this organism. Cultures were secured in 44 cases, and of this number 23 gave the colon bacillus and 8 others showed bacteria of the colon group, anaerobic bacteria in 14 cases. The gonococcus is not a common cause of pyelitis. Of the fifty cases studied by David 28 were ureter, pelvis and kidney cases, but no case of gonococcus is reported. Guiteras states that gonococcus pyelitis has been very rare in his practice.

The mode of infection is by direct extension from contiguous infected organs, abscesses, etc.; through the blood stream or through the lymphatics. Sweet and Stewart in a study of ascending affections of the kidneys, demonstrates that ascending infections reach the kidneys through the lymphatics only. An intimate connection through the lymphatics has been demonstrated between the kidneys and the ovaries, the gall bladder, the appendix, and, in fact, all parts of the abdominal cavity. Taking this in connection with the great frequency of the colon bacillus as the infecting agent, we may safely conclude that the focus of infection may be found in the intestinal canal in at least 75% of the cases. The infection may arise from appendicitis, from an infected gall bladder, from an ulcer; it may be caused by constipation and intestinal toxemia. It may also arise from infected ovaries and tubes. The development of the infection is favored by obstruction to drainage from the kidney. This obstruction may be caused by a prolapsed kidney, by stricture of the ureter, by ureteral stone, or by pressure.

The symptoms of pyelitis or pyelonephritis may be very slight. The disease may exist for some time with nothing more definite than lassitude, poor circulation, sensitiveness to cold, impaired digestion, etc. Most patients complain of some pain in the region of the kidneys and with obstructed ureters, the pain may become as severe as in renal colic from stone. Blood may appear in the urine without the presence of stone.

The severe cases may sometimes be mistaken for typhoid. The blood pressure in cases of pyelo-nephritis is usually low.

Three lines of treatment are employed in combatting the disease.

1. By urinary antiseptics.
2. By vaccines.
3. By pelvic lavage.

The urinary antiseptic most commonly used, and probably the most successful, is hexamethylenamin. The drug must be pushed to the limit of tolerance. This, as pointed out by Keyes, is manifested by irritation of the neck of the bladder. The dose is kept as near this as possible until the urine is free from bacteria, then continued for some time in small doses. The maximum dose varies greatly with different individuals. Some are able to take as much as  $2\frac{1}{2}$  drams daily; others may not be able to take more than 15 grains daily. The usual maximum is from fifty to a hundred grains daily. Some patients are not able to take enough of this drug to be of any service as an antiseptic; and with these, any of the other urinary antiseptics may be tried, but with less promise of success.

Vaccine therapy, as applied to pyelitis, does not differ from vaccine therapy of other conditions. There is the same difficulty in securing a vaccine from the exact strain of bacteria responsible for the disease. An autogenous vaccine does not always fit the case nor does a stock vaccine always fail. Vaccine treatment may be used in connection with other treatments. It can do no harm and when the vaccine is exactly suited to the case, will be of great assistance in overcoming the infection.

Treatment by injection of the pelvis of the kidney has been the subject of much discussion. Guiteras states that with an experience of several thousand cases treated by this means, he cannot say that a single one has been cured. He uses silver nitrate 1:4000 to 1:2000 or other antiseptics in weak solution. In a recent article in *The Journal of the American Medical Association*, Gerraghty recommends injections beginning with  $\frac{1}{2}\%$  and increasing to 5% if necessary. He reports considerable success with this treatment. In treatment by injections, as in treatment by antiseptics administered internally, it seems advisable to secure a local reaction.

The hope of permanent cure is not great unless the original focus of infection is removed. Even removal of an infected kidney is no safeguard against infection of the other kidney, if a focus is left behind that pours bacteria into lymph channels which are intimately connected with the kidneys of both sides. If the primary focus is removed we may hope for successful treatment and permanent cure.

## SEXUAL IMPOTENCE.\*

### *Etiology, Pathology, and Treatment.*

BY IRVIN S. KOLL, M.D., Chicago, Ill.

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**I**N the past year there has been a surfeit of articles variously titled, having more or less bearing upon sexual impotence. Few such publications have, however, adequately presented the subject *per se*, but have considered impotence along with other sexual disturbances covering the scientific field reaching from sexual hygiene and psychology of sex to the sociological status of mankind. Impotence, curiously enough, is but imperfectly understood, and by many medical men considered synonymous with sterility. It should be superfluous to differentiate, but inasmuch as the term is so widely misinterpreted, I crave indulgence for consuming even a small space by way of explanation. The term conveys a relative meaning, varying in degree from the premature ejaculation (*ejaculatio præcox*) to total inability to have erection. The first condition is, as a rule, a forerunner of the second. Sterility also carries its own meaning; that is, the inability to procreate. A man can be quite sterile and yet be potent; the reverse is also true; many authentic cases are recorded where impregnation has resulted without coitus, where the semen was discharged at the introitus, through the premature ejaculation, or ejaculation having occurred in the absence of an erection.

The prevalence of sexual impotence attended with such grave consequences should stimulate physicians to a clearer understanding of this condition, which in turn will be attended by barren marriages becoming fruitful; lessen the many instances of marital infelicity, which is so appallingly due to sexual incapacity on the part of the male so afflicted; and, thirdly, diminish the ever increasing number of cases of sexual neurasthenia, ending in so many instances in complete mental deficiency and even self destruction. For these serious reasons this paper is written. It is, in fact, an appeal to the medical man in general practice better to understand this symptom, which has for its foundation a true pathology, and which cannot be dismissed with an exhortation "to forget it," or a so called aphrodisiac pill, which does not

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\* Read before the Chicago Medical Society, Dec. 16, 1914.—*New York Med. Jour.*

exist, or possibly the passage of an urethral sound or a cold rectal irrigation.

We should not lose sight of the fact that physiological impotence or the male climacteric may vary widely as to age in different individuals. I am confident that, as in the opposite sex, an early sexual activity usually means a correspondingly early cessation in the sexual capacity. Excesses during the earlier years of sexual activity may, too, be a strong factor in the production of premature senility of the sexual apparatus. No age nor even an average can be given. It is indeed as well to guard against giving a favorable prognosis to a man over fifty years old who seeks relief for loss of his potency, even if some true pathological condition can be located. His condition may frequently be improved, but, as a rule, there is a request for complete rejuvenation, which in the majority of cases cannot be attained.

Let me reiterate that impotence is a symptom, not a condition: a grave symptom, indicating some abnormal process at work. Our classification begins with the nervous system, and the functional type is one of the most frequent and difficult with which we have to deal. It may be a true psychosis that has been slow in developing and has, as a rule, many factors which have played a rôle in the etiology.

The orthodox notion which the laity has so deeply ground into its moral make-up as to the bad effects of masturbation is the most prevalent factor in the production of psychic impotence. The charlatan grasps at this vulnerable spot and utilizes it to play upon the state of mental depression. Every possible type of psychasthenia develops, and only too often the unfortunate is beyond the reach of assistance, and ends in disaster. Limited space forbids a detailed discussion of masturbation, which, indeed, would be superfluous and not to the point, but a revision of the unfortunate attitude toward onanism is suggested, and it is to be hoped that a careful investigation of this subject will result.

The other factors that go toward producing a functional impotence are purely psychological—the sense of fear and of fright. The fear of impregnation, venereal infection, and failure to perform satisfactorily his function are inhibiting states of mind. The fright attending discovery is another mental state that has often produced subsequent failure in potency.

The next group of morbid processes of which impotence is one among other symptoms are the constitutional disturbances, the most prominent of which are the various forms of anemia. It is quite common to find only an impoverished blood in a patient presenting himself for the correction of failing virility. In addition to the anemias, any debilitating disease will, of course, reduce the sexual power. Strangely enough, the one exception to this statement is pulmonary tuberculosis. A number of patients in advanced stages of the disease appear to have an increased libido, a condition much to be regretted in wedlock, since it only too naturally predisposes to the likelihood of conception.

By far the greater number of cases have a true pathology. This group is classified as the organic type, subdivided under testicular lesions, urethral lesions, and spinal cord lesions. It should be remembered that there are two separate and independent processes at work in the testis—the manufacture of spermatozoa in the seminiferous tubules, and the production of an internal secretion by the interstitial cells, the exact nature of which is not yet known. One of these two processes can be destroyed without in any way altering the other. Strange as it may seem, some morbid changes will affect one and leave the other in good working condition. This seems to be particularly true of extensive bacterial invasion whereby the tubules of both testes fail to yield any spermatozoa and yet potency remains unchanged. This may be explained by the cicatricial contraction producing pressure atrophy of the tubular epithelium, leaving the interstitial cells or the cells of the internal secretion unharmed. It is the internal secretion that is essential in the production of masculinity. So long as some of these internal secretory cellular structures continue to function properly, and there is an absence of other pathological condition, the masculine type is preserved. Just how much testicular tissue is susceptible of destruction without affecting the sexuality cannot be definitely stated, but a total loss of one testis with resection of the other has not materially changed the sexual characteristics.

Atrophy of the testes produced by trauma, often received at puberty; a kick from a horse; being struck by a ball or club, will lower the sexual capacity. Persistent masturbation, excessive coitus, and sexual irregularities will produce atrophy of the testis.



I am convinced that these conditions must be extreme and extend over years before such changes can be brought about. The orchitis and consequent atrophy complicating specific parotiditis, typhoid, and scarlet fever is well recognized, and these etiological factors are not to be overlooked or slighted in taking a history, and must be properly valued in venturing a prognosis.

Beside, the destructive processes of pyogenic infections, gumma of the testes, neoplasms, and tuberculosis will, of course, destroy both the germinal and internal secretory cells.

Whether or not there exists a congenital impotence due to nondevelopment of the interstitial cells has not come to the writer's notice, either by way of the literature or personal observation. The occurrence of such a condition should not be surprising, inasmuch as a total absence of spermatozoa in a young adult is not rare, and this without any demonstrable lesion or any point in the history that would throw any light upon the azoospermia. That the failure to produce the spermatozoa lay in the testes and not higher in the genital tract the writer has proved in several recent cases by plunging a needle into the testes and globus major and minor of the epididymis. A drop of fluid so withdrawn showed not the slightest evidence of spermatozoa. A congenital sterility could be assumed from such a finding.

Changes within the urethra are probably responsible for the majority of the cases of impotence. Congenital malformations, marked hypospadias and epispadias, and underdevelopment of the penis may, of course, produce total sexual disability, but in all probability the condition in most instances is more psychic than organic, the patient being ashamed of his deformity and thus not developing the libido. Acquired deformity of the penis may result from scar contraction following trauma, or severe inflammation, usually of gonorrhoeal origin, involving either the spongy or cavernous portion. Such conditions are almost hopeless, since plastic work on the urethra is unsatisfactory, even under the most favorable conditions and in the most skilled hands.

The possibility of a pronounced varicocele, either unilateral or bilateral, influencing a reduced sexual power, must be considered. If such a condition is present in a marked degree, it is probably advisable to suggest an operation, or, if not marked, the wearing of a suspensory bandage.

It is reserved for the verumontanum, a small, innocent

appearing ridge of mucous membrane lying in the floor of the prostatic urethra, to play the leading rôle in the production of organic impotence, especially of urethral origin. As yet no one has offered an explanation as to why this simple structure, when slightly enlarged or inflamed, should so completely upset the sexual equilibrium. A simple ridge of mucous membrane in the normal state, richly supplied with bloodvessels and lymphatics, it is the seat of congestion during each erection. The engorgement with blood which at first produces an active hyperemia, and which later becomes passive, persists during the quiescent state of the urethra and penis: granulations quickly form and before long, instead of an insignificant ridge of mucous membrane, it is transformed into a large, angry looking mass of tissue, varying in size from that of a small pea to a small china marble. Covered with granulations and bleeding easily, it frequently produces a profuse hemorrhage which may be difficult to control.

It would be interesting to know just how such a pathological change could influence a process which presumably has its origin in the testes, so far removed from the seat of the lesion. To the painstaking pathologist we must look and wait for some light upon this part of our subject. The region of the verumontanum may present quite another picture when viewed through the endoscope. Very often, instead of finding a prominence, there is a distinct atrophy of this little eminence of the prostatic urethra: in place of chronic hyperemia, granulations and hemorrhage: distinct widening of the orifice of the utricle, loss of contractility, and pronounced anemia of the mucous membrane, not only of the region of the verumontanum, but also of the entire urethra, reaching from the bulbous portion back to the sphincter of the bladder. Such a picture may with impunity lead one to ask his patient how many years he has practised onanism, and the frequency with which he indulged. Or if there are other evidences in the history, of a life of debauchery carried to the extreme, especially associated with chronic alcoholism, such a picture in the posterior urethra may be seen.

What are the other conditions that will produce pathological changes in the prostatic urethra? Foremost is posterior gonorrhœal urethritis of long standing, especially in neglected or maltreated cases. Next in importance ranks the colon bacillus.

This organism may find its way into the urethra either through coitus or by direct extension from the constipated lower bowel. Sexually acquired, the condition is only too often wrongly diagnosed. The discharge produced is usually of the thin, watery type, and the physician may satisfy himself that it is not gonorrhoeal from the absence of the thick, yellowish green secretion characteristic of a Neisserian infection. If not properly managed, the inflammation frequently extends to the posterior urethra and produces severe changes.<sup>1</sup>

Sexual excesses and abuses, the pernicious habit of indulging in coitus interruptus, frequent excitement without gratification, are all factors that will cause an enlargement of the verumontanum. Sexual excitation, so often the probable concomitant of a prolonged betrothal, is at the basis of many cases of verumontanitis.

Seminal vesiculitis, either in the acute or chronic form, is not infrequently conducive to painful orgasm, which, in turn, affects the libido and so reduces the potency of the individual.

Any destructive process of the spinal cord involving the erector fibres will, of course, destroy the sexual power. It should be remembered that vesical incontinence and a reduction of the *vita sexualis* are frequently the first manifestations of tabes.

In discussing the treatment of impotence, it is well to adhere to the classification we have adopted for the etiology. Our first consideration, then, is concerned with the psychic impotent.

It will frequently require the most unlimited amount of patience to handle these cases. The first point to gain in attaining a cure is to obtain the complete confidence of the patient. Do not laugh at him when he relates his story, which often contains some humorous touches; give him your sympathy, assure him that there is something the matter with him, and that you can cure him, or at least improve his condition. In all probability, he has been through the hands of a number of medical men before he has reached you; probably, too, the charlatan, the faith healer, and Christian scientist have had their fling at him. Above all, gain his confidence and set to work to make sure that there is no real pathological condition present. In the absence of any organic lesion, the task is one of instituting a régime of good hygiene; regular habits, strict sexual abstinence—both mental and physical. I have always found it of value to urge some form of athletic exercise—tennis, swimming, gymnasium work, etc.; a simple tonic,

<sup>1</sup> *Chicago Medical Recorder*, April, 1911.

attention to the bowels, and occasionally the passage of a sound and light prostatic massage. The latter procedures are more for the psychic effect than the hope of any actual therapeutic benefit. It will be of value to make out a detailed schedule, giving the number of hours of sleep necessary, the diet, amount of exercise, etc. Remember, these patients are suffering from a distinct form of neurasthenia and must be led in every minor way. Do not give up, but talk encouragingly, and in the end you will win.

If there is distinct atrophy of one or both testes, and no associated lesion, the outlook is bad. I know of no treatment that will improve sexual power under such circumstances. The electric current can do no harm, but rarely does any good.

In inflammatory conditions of the urethra, of course, the particular infection is to be combated and if subsequently there remains an infiltration of the prostatic urethra, this is to be met by the method to be described presently. For staphylococcic infections the writer has found oxycyanide of mercury of great value, used in irrigations and instillations in solutions of one to 10,000, increasing to one to 5,000. In colon bacillus infections I am getting the same good results reported in two previous papers,<sup>2</sup> using the solution of aluminum acetate (N. F.) 0.5 to two percent.

Fortunately, as before stated, by far the greater number of premature impotents have in the etiology a chronic inflammation of the verumontanum. I say fortunately, because the results obtained are most gratifying, and within the safe age limit we can without fear give a favorable prognosis. The first point to make is to remove the cause, as given under etiology. Careful regulation of the bowels is of prime importance. Accumulation of hardened feces in the rectum increases the state of congestion in the prostatic region. A nonacid diet is probably of value, especially in the presence of burning during micturition. In addition, bicarbonate of sodium in dram doses twice daily is an advisable adjunct to our régime.

If there is any appreciable congestion of the prostate or sensitiveness of the seminal vesicles, ichthyol and belladonna suppositories, together with a very hot sitz bath once or twice daily, will give good results.

The all important measure is the local treatment of the verumontanum. Through the endoscope applications of nitrate

<sup>2</sup> *Transactions American Urological Association*, 1911 and 1912.

of silver are made, beginning with ten per cent. and slowly increasing up to the pure caustic. The cauterizations are made at intervals varying from five to ten days, depending upon how severe the reaction is after treatment. Occasionally quite a profuse hemorrhage will occur if many granulations are present. This can be controlled by making a topical application of adrenaline. During the course of treatment attempts at coitus should be strongly interdicted. The treatments should be kept up until all evidences of prominence of the verumontanum are gone, and no bleeding occurs when the endoscope is introduced. It requires about ten to twelve cauterizations before a cure is obtained. Before dismissing your patient, warn him that if he again indulges in any of the abuses which may have produced his impotence, that he will surely have a recurrence, which will be much more difficult to relieve.

25 East Washington Street.

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SEVERE HEMORRHAGE FROM A URETHRAL ANGIOMA.

A. Wolf (*Wien. klin. Woch.*) was consulted by a student, aged 21, for severe hematuria, which had lasted for eight days. The hemorrhage, which was independent of micturition, had made the patient profoundly anemic. He had no history of venereal disease, and there was no history of trauma. The inguinal glands were not enlarged, and the external genitals were healthy. Clear, bloodless urine was withdrawn from the bladder with a catheter, by the side of which blood continued to escape from the urethra. An injection of gelatin arrested the hemorrhage for six hours only. Cocaine and adrenalin were now injected, and an endoscope was introduced, through which a red, flattened prominence as large as a lentil was seen in the upper wall of the urethra about 6 cm. from the meatus. It was formed of capillary blood vessels in the centre of which there was a clot of blood. The galvanocautery was applied, a catheter was kept in the bladder for twenty-four hours, and a complete cure was effected. Probably the immediate cause of the hemorrhage was an erection, to which the hematuria of gonorrhoea is also commonly traced. The author can find only three similar cases recorded. In one of these, recorded by Klotz, there was no hemorrhage. In the two other cases, recorded by Seifert, the severe hematuria was permanently arrested by cauterization. While vascular tumors of the female urethra are relatively common, angiomata of the male urethra appear to be very rare.



# REVIEW OF CURRENT UROLOGIC LITERATURE

THE VACCINOTHERAPY AND SEROTHERAPY OF GONORRHEA AND OF ITS COMPLICATIONS, WITH SPECIAL REFERENCE TO THE VACCINE OF NICOLLE AND BLAIZOT. *By J. Tanton and M. Grenier.*

Serotherapy may be of four kinds: specific, paraspecific, paradoxical, and autoserotherapeutic.

1. Specific serotherapy consists in the use of sera prepared from the gonococcus. The authors discuss in some detail the sera of Rogers and Torrey, of Parke and Davis, of the serotherapeutic institute of Milan, of Debré and Paraf. They conclude: (a) that a sufficient dose of any of these sera is 10 c.c.; (b) these sera have no real contra-indications, their only inconvenience being an occasional anaphylactic phenomenon; (c) they have no, or practically no therapeutic action in acute or chronic urethritis; (d) on the other hand, they give more or less rapid results in epididymitis and in acute rheumatism; (e) the efficacy of the serum depends on how soon after the onset of the infection the injection is made.

2. Paraspecific serotherapy consists simply in the use of antimeningococcus serum. A study of this method of treatment shows: (a) that antimeningococcus serum is non-toxic in the complications of gonorrhoea. The local reaction is slight, a general reaction is rare and mild, but a focal reaction is rather frequent. (b) The serum may give rise to anaphylactic phenomena, but these are avoidable. (c) Its therapeutic action is most marked in epididymitis and gonorrhoeal rheumatism. (d) Its action is less certain in the other complications and absolutely negative in urethritis. (e) Its harmlessness, ease of employment, and availability, indicate its systematic use in epididymitis and the articular complications of gonorrhoea until the appearance of a truly specific gonococcus serum.

3. Paradoxical serotherapy calls for the use of sera which have not even a remote relation to the affection to be treated; e.g., antistreptococcal and antidiphtheritic sera. The latter has been used only in the ocular complications of the disease where it has caused relief of pain; the former has given its best results in gonorrhoeal rheumatism where it has caused some improvement, but no cures.

4. Autoserotherapy consists in the use of the patient's own serum. When the fluid employed is that of an effusion it is better to use the term autoplasmotherapy. The injection may be made subcutaneously or intravenously, in general it is painless and gives rise to no local reaction. This method of treatment seems capable of giving satisfactory results in cases of hydrarthrosis or pyarthrosis which heal slowly and end in ankylosis.

THE VALUE OF THE COEFFICIENT OF AMBARD AS AN INDICATOR OF THE PHYSIOLOGIC ACTIVITY OF THE KIDNEY. *By Dr. Choltzoff.*

Choltzoff discusses kidney function tests in general and the determination of the coefficient of Ambard in particular and gives his personal results with the latter in 73 cases observed at the Obouchoff Hospital in Petrograd. He concludes that:

1. The determination of the urinary chlorides and urine is of no great significance as regards the physiologic activity of the kidney. When such tests are made, rather than to determine their concentration per litre of urine it is preferable to find out the total 24 hour output of urea and chlorides.

2. The determination of the concentration of chlorides and urea in the blood is still less important.

3. The observations of different authors agree in showing a constant relationship between the quantity of urea in the blood and in the urine. Ambard has expressed this ratio in the following mathematical formula:

$$K = \frac{Ur}{\sqrt{V_D \times \frac{70}{P} \times V \frac{\sqrt{C}}{25}}}$$

in which Ur = concentration of urea in the blood, D = quantity of urine secreted in a given time (24 hrs.), P = weight of the patient, 70 = weight of a normal subject, 25 = normal concentration of urea in the urine.

4. The estimation of the urea in the blood and in the urine should be made in specimens taken simultaneously. It is customary to collect the urine for half an hour and to puncture the vein in the interval.

5. The coefficient of Ambard in normal subjects varies from 0.065 to 0.085.

6. As the coefficient increases, renal activity diminishes. There is thus a retention of urea in the blood.

7. The determination of the coefficient of Ambard is of value in nephritis of the azotemic or mixed type.

8. Medical cases of azotemic nephritis are relatively rare. On the other hand almost all primary or secondary surgical nephritics are of the azotemic variety.

9. The coefficient of Ambard was determined in 73 cases in the urologic service of the Obouchoff Hospital. Of these cases 25 were primary nephritis; the rest being secondary to other urinary lesions. This method gives results which generally accord well with those obtained by other tests. The coefficient of Ambard being a mathematical expression of a physiologic act, gives a more exact idea of the state of renal activity.

10. The coefficient of Ambard cannot be applied to determine the functional activity of each kidney separately, our means for catheterizing the ureters being still too imperfect to prevent the escape of a certain quantity of urine alongside the ureteral sound.

11. It follows therefore that the coefficient of Ambard will be applied to determine the function of both kidneys taken together except in cases where one of the kidneys is absolutely excluded (congenital absence of the kidney, hypernephroma, hydro- or pyonephrosis).

Finally, this method is applicable in cases of a unilateral renal fistula, of a renal ectopy, and in all cases where a No. 8 ureteral sound can be passed.

A CONTRIBUTION TO THE STUDY OF MEDULLARY (SPINAL CORD) LOCALIZATION IN THE PATHOLOGY OF THE KIDNEY AND THE BLADDER. *By L. Strominger.*

It is now generally admitted that each organ corresponds to a definite segment of the spinal cord. Furthermore, it follows from the researches of Head and others that the viscera are so to speak projected on the cutaneous surface of our bodies according to the medullary origin of their innervation. Thus the spinal cord sends "messages" to the organs and skin, as is attested by cutaneous hyperesthesias in various visceral affections, and the skin, in turn, sends messages to the viscera and spinal cord, as is seen in certain organic disturbances accompanying diseases of the skin. This latter relationship especially will help us understand many urinary phenomena.

Taking up first purely anatomical considerations, we learn that the kidney is supplied by the greater and lesser splanchnic nerves and that its central (medullary) localization is in the last dorsal and first two lumbar segments of the cord. The innervation of the bladder is of greater interest and has been more thoroughly studied. Its nerves arise from two sources: (1) The inferior mesenteric ganglion, supplied by the 3d, 4th, and 5th lumbar nerves, (2) the sacral plexus, supplied by the 2d and 3d sacral nerves. The bladder also receives anastomoses from the hemorrhoidal and prostatic plexuses, both supplied by the sacral nerves. It has been shown, moreover, that the conus terminalis is the center of micturition, defecation, erection, and ejaculation, and that this center is localized in the 3-5 sacral and the coccygeal regions. It is therefore accepted, in a general way, that the lumbar centers serve to retain the urine whereas the sacral center expels it, and that it is the antagonistic action of the body of the bladder against the sphincter which decides the act of micturition or retention of the urine.

In addition to its central innervation, however, the bladder possesses an intrinsic system of nervous control and this is assumed

to reside in sympathetic nerve ganglia located in its walls or in the mucosa and constituting an independent autonomic system. This theory receives its support from two classes of facts, viz.: (1) The almost absolute impossibility of obtaining complete vesical anesthesia by chloroform narcosis, and (2) the success obtained with stovaine rachianesthesia in operations on the bladder. The failure of chloroform is explained on the ground that the drug does not always affect the sympathetic ganglionic innervation of the bladder, whereas stovaine, by acting primarily on the medullary nerve roots which control the intrinsic vesical nerve fibers, is alone capable of completely anesthetizing the organ.

Rachianesthesia being regional, in order to affect the upper lumbar roots which supply the kidney, the puncture must be made between the 11th and 12th dorsal (spines), and in order to involve the sacral roots, between the 4th and 5th lumbar. It is because of failure to attend sufficiently to these anatomic and physiologic details that poor results have been obtained, and the method itself blamed, whereas it was rather the technic which was responsible.

We now come to a consideration of how the kidney and bladder are projected onto the skin. Pasteau has described three ureteral points, viz.: the supra-intraspinous, the inguinal, and the supra-iliac. The nerves corresponding to these points have their origin in the lumbar region. Sciatic pains may often occur with calculi or lesions of the kidney. Abdominal hyperesthesias also belong to this group of phenomena. The renal and vesical crises of tabes are explained by changes occurring in the posterior roots and it may very well be that relief from these attacks may be sought, as in the case of gastric crises, in resection of the corresponding nerve fibers.

Among affections of the bladder which have a cutaneous projection we must first consider lesions of the neck and especially calculi. The vesical neck and the prostate are supplied by the 3d and 4th sacrals, which is also the innervation for the glans penis. This is the anatomical basis for the frequent clinical observation that foreign bodies and tumors affecting the neck are revealed by pain in the glans, whereas the same tumors or foreign bodies when parietal in location do not cause pain with this distribution. Simple prostatic hypertrophy rarely causes referred pain in the glans, and when the latter symptom exists it is generally due to prostatic calculus or neoplasm.

Let us now consider the effect of various skin lesions upon the urinary apparatus. Thus, there are numerous cases of intervention on the perineum and the genital organs which have reflexly brought about urinary disturbances varying in degree to total retention of the urine. Not only rectal or gynecological operations, but such conditions as phimosis, balano-posthitis, masturbation, etc., may cause either retention or, on the other hand, even incontinence with symptoms of cystitis. Horsemen and bicyclists are occasionally troubled with urinary difficulties.



That, in such cases, there must actually be a peripheral point of departure is proven by the fact that wounds of the bladder and urethra do not always cause urinary difficulties. Moreover we have clinical evidence of still more extended reflex paths in the system, as for example the effect of stimulating the inferior turbinate on dysmenorrhea or on muco-membranous enteritis.

NOTES ON VERUMONTANITIS OR COLLICULITIS. *By G. Li Virghi.*

*Definition.*—By montanitis is meant an inflammation of the verumontanum due to an infection of that organ. The infection may be primary in that it develops independently of a process in the bladder or urethra, or it may be secondary, in the course of an ordinary (gonorrhoeal) urethritis or cystitis.

*Etiology.*—The inflammation is due generally to the colon bacillus and may be brought about indirectly, through the circulation, or directly by the urinary current from the kidneys or bladder, or finally from the prostate, by migration through the intestinal wall. Among the predisposing causes we have habitual congestion of the parts due to venereal excesses, masturbation, alcoholic abuse, etc. Chronic constipation is not a predisposing factor.

It may be asked why, in view of the frequency of urethritis and cystitis, affections of the veru are so rare. This may be due to the fact that when the infection is limited to the superficial mucosa it gives no particular symptoms, but that it is only when the deeper layers are involved, or when the posterior limit of the sulcus is passed (and the vesical neck involved by contiguity), that the existence of the process is revealed.

*Macroscopic lesions.*—No cocaine or adrenalin should be used before the introduction of the urethroscope. This procedure usually causes some bleeding. The mucosa is very hyperemic but not sufficiently swollen to prevent the passage of the tube. The oblique sulcus of the veru assumes the appearance of a diver's helmet, the eyes of which correspond to the swollen and edematous orifices of the ejaculatory ducts. Ulcerations are not present.

*Symptomatology.*—The dominant symptom is urgency and frequency of micturition both by day and night. The emission of urine is unaffected by the local swelling, and the energetic character of the stream shows that the detrusor muscle is intact and the contraction of the bladder active from irritation of its external sphincter. The pain is marked, especially at the beginning of micturition and is associated with a burning sensation in the urethra, radiating to the anus. Hematuria, due to congestion, is inconstant, but is always initial. Pyuria is one of the characteristic symptoms. In the primary disease, the first



glass contains pus, the second is clear. When the montanitis complicates a gonorrhoea (usually at the height or subsidence of the latter,—never at its onset), the first glass, in addition to being cloudy, contains shreds. When the disease is secondary to a cystitis the symptoms do not differ from those of the primary affection. A very characteristic symptom is the exaggerated local sensitiveness to the slightest instrumental contact.

*Diagnosis.*—Urethroscopy is of course the readiest means of diagnosis. Initial pyuria is a very important symptom. The pyuria of cystitis is constant. In cystitis, moreover, hematuria and tenesmus are terminal and their duration is short despite the cure of the underlying urethritis. In montanitis these symptoms are initial and are likely to persist after the disappearance of urethral discharge.

*Course, Duration, Outcome.*—The disease may last for months, but the result is generally complete recovery. Frequency and the urethral burning may persist for a long time. Sexual impotence and sexual neurasthenia are not to be regarded as results of montanitis as such.

*Treatment*—Treatment is both local and general. All excesses should be avoided and it is best to give cinchona, iron, arsenic, or iodides internally. The best urinary antiseptic is hexal, 1.5 gram daily, in three doses.

Topical treatment consists in cauterization with 10-20 per cent. silver solutions, or with the silver stick direct. The latter is preferable and should be done gently every 6-8 days after thorough stovainization of the urethra. Tincture of iodine has also been recommended.

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THE DIAGNOSIS AND TREATMENT OF INCIPIENT RENAL AND VESICAL TUBERCULOSIS. *By Dr. Wildbolz.*

In this instalment the author seeks to establish definitely just what is meant by incipient renal tuberculosis. Certain authors have classified cases where patients have been aware of symptoms but a short time, as incipient, but numerous instances are on record where kidneys removed from such subjects show very advanced lesions. Others, on the other hand, have called cases incipient where neither the symptoms nor the objective findings were indicative of renal tuberculosis, yet there is abundant proof that even in such cases the organs may be seriously affected.

As a matter of fact, it is only the anatomic condition of the kidney which can decide whether the process is incipient or not. Even here, a misapprehension must be cleared up. It used to be thought that the disease commences in isolated or multiple

tubercles of the cortex, without any communication with the kidney pelvis. Larger pathologic experience teaches us that these lesions are not to be regarded as the onset of chronic tuberculosis (with which we are dealing) but as the first manifestations of acute or subacute miliary tuberculosis, beginning just before death in phthisical subjects.

We learn from repeated biopsies in chronic renal tuberculosis that the process begins not in the cortex but in the medulla and most often in the papillae, and that before extending further inwards the process usually breaks through into the kidney pelvis. Externally, such kidneys appear perfectly normal. On section the cortex shows no abnormality but on one or more papillae there are yellowish indurations surrounded by small necrotic areas opening on the pelvis. In the earliest stages there is even no necrosis, only a certain puffiness, with a glassy, bluish discoloration. Occasionally minute cysts are present. Microscopic examination shows that the papillae are affected by tubercles presenting a central necrosis and a surrounding leucocytic infiltration. The collecting tubules above these papillary foci are widened, whereas those at the sides are compressed or partially replaced by hyaline masses. The foci may also be surrounded by calcareous masses representing infiltrated straight tubules. A tubercular infiltration of the small arteries of the affected pyramid was first observed by Wegelin and the author. Tuberculosis of the veins is well known. Tuberculosis of the lymphatics has never been satisfactorily demonstrated.

Tubercle bacilli occur in great numbers in the superficial necroses of the papilla, or at the depths of the calyces, where they are arranged in horse shoe fashion, or in rows. Toward the cortex they become progressively fewer in number.

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#### ACUTE NON-GONORRHEAL ORCHITIS AND EPIDIDYMITIS.

Stroink (*Deut. med. Woch.*) has investigated four cases of acute orchitis, epididymitis, and funiculitis, by a bacteriological examination of the fluid obtained by exploratory puncture. In every case he obtained pure cultures on various media, and in two cases, when the punctures were repeated, the same organisms were again found. The punctures were made after the acute inflammation had subsided, and the scrotum had been sterilized by washing, and the application of absolute alcohol and ether. The first patient was a lad, aged 16, whose scrotum became red and edematous, and whose right testicle, epididymis and cord became swollen and very tender a day after he had bruised his testicle, while climbing through a window. There was no urethral discharge, the prostate was normal, and the urine clear. When centrifugalized it showed only a few leucocytes. Under the alternate application of ice and

hot compresses the temperature fell slowly from 101.3 to 98.6, and the pain and swelling almost ceased. Though the urine was sterile, an exploratory puncture yielded the bacillus fluorescens non liquefaciens. A year later the testicle was much atrophied. The author gives an account of agglutination tests with this bacillus, from which he concludes that it was the cause of the inflammation, but he is not certain as to the portal by which it reached the testicle. The second patient was a lad, aged 14, who had passed a match into his urethra. His left testicle, epididymis, and cord became swollen and tender five days after. The prostate was normal, the urine was clear and sterile, and there was no urethral discharge. Under the alternate application of ice and hot compresses the temperature fell from 102.2 to normal, and the pain and swelling diminished. On the eighth day puncture of the testicle yielded a pure culture of the staphylococcus pyogenes aureus. The third patient was a man, aged 22, who developed an acute, painful swelling of the left testicle twelve days after both parotids had become inflamed. There was no urethral discharge; the epididymis, cord, and prostate were normal, and the urine was clear. Puncture of the testicle yielded a pure culture of the staphylococcus pyogenes albus. A rapid recovery was effected with the alternate application of ice and hot compresses. The fourth patient was a lad, aged 18, who had previously suffered from attacks of pain in the testicles with fever. He denied having contracted gonorrhoea, or having had a urethral discharge. His prostate and left testicle were swollen and tender, and a slight urethral discharge contained rods and cocci, but no gonococci. Puncture of the testicle yielded pure pus which contained coliform bacilli. These had probably reached the testicle from the bladder or rectum.

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#### ESSENTIAL RENAL HEMATURIA.

Dr. Wm. M. Spitzer (*J. A. M. A.*) contends that while "idiopathic renal hematuria" may be a term which is merely a cloak for ignorance, nevertheless there are cases which can be properly described as "essential renal hematuria," because it is from the kidney substance itself that the bleeding takes place, absolutely nothing pathologic other than blood appears in the urine, and no lesion can be demonstrated by a competent urologist. His conclusions are:

1. The changes found in kidneys of essential hematuria are identical with those found in passive congestion and are therefore caused by passive congestion.

2. The bleeding is due to passive congestion, the kidney being an organ so constructed that it must of necessity bleed in the presence of passive congestion.

3. It is erroneous to ascribe the bleeding to nephritis, as there are no clinical symptoms or urinary findings indicative of nephritis, nor can the latter be unilateral. Still, it is admitted that if the bleeding continues, the pathologic change in the kidney would be the same as in chronic interstitial nephritis.

4. The passive congestion occurring in one kidney only is due to some interference with the outflow of blood, which comes from a twisting of the kidney on a short pedicle.

5. Operative interference is warranted only when it becomes necessary to save the patient's life because of an increasing secondary anemia.

6. Bisection of the kidney for the cure of this condition is contraindicated, and likewise dangerous. •

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#### EXCISION OF DIVERTICULA OF THE BLADDER.

Dr. W. E. Lower (*J. A. M. A.*, Vol. LXIII, No. 23) in excision of bladder diverticula, on account of the difficulty of dissecting out the collapsed sac, converts the sac into a solid tumor by the method described incidentally in a case reported by Cabot in 1912. In general the method described by Lerche in his report of using a small rubber bag inserted into the diverticulum and then inflated, answers the same purpose, but is not so easily done. In three of the cases which he reports he first packed the sacs tightly with narrow strips of gauze and was then able to remove them completely without the slightest difficulty. In one case the tumor was quite large. In another the diverticulum was much smaller. In the third case there were four separate and distinct diverticula, three of which were easily removed after they had been packed tightly with gauze, while the fourth was removed by bringing the sac up through the bladder. In these three cases the convalescence was uninterrupted and in two there have been splendid functional results, but in the third there is still some residual urine which he believes to be due to the prostate.

In those cases in which excision seems to be impossible, he believes the method which has recently been suggested by Squier is well worth a trial: namely, to establish a large communication between the bladder and the diverticulum by the use of clamps and sutures after the manner of a gastro-enterostomy.

In two cases the author tried to make the diverticulum a part of the bladder cavity by dilating the orifice, but this procedure was unsuccessful in each instance as contracture followed. One patient was operated on a second time, and the other still has trouble.

In all the cases in which he removed the diverticula by the method of first converting them into solid tumors, the following method was used:

1. Nitrous oxid-oxygen anesthesia with local infiltration of novocain.

2. Transverse incision through skin and fascia.

3. Infiltration of muscles. Separation of muscles and bringing the bladder up with curved forceps, and then dissecting the bladder from the peritoneum.

4. Packing the diverticula tightly.

Then with the fingers inside the bladder, the index-finger in the opening of the diverticulum and the thumb on the outside, the attachment to the bladder is exposed and divided.

The bladder is then retracted away from the diverticulum, traction is made on the tumor and it is dissected free from the surrounding tissue.

With some of the tumors this last step was not necessary—the tumor could be brought up first and the dissection from the attachment of the bladder made secondly.

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#### BOOK NOTICES

URINARY ANALYSIS AND DIAGNOSIS by Microscopical and Chemical Examination. By Louis Heitzmann, M.D. Third revised and enlarged edition, with 131 illustrations. Cloth, pp. 345, \$3. Wm. Wood & Co., New York.

Dr. Heitzmann is well known as an expert in the analysis of urine, and this book, presenting the results of his many years experience, is one of the most complete, most authoritative and most up to date works on the subject. As in previous editions, great stress is laid upon microscopical diagnosis, the author being firmly convinced that the source of most epithelial cells can be determined with a sufficiently high magnifying power (400 or 500 diameters).



# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. IX.

MARCH, 1915.

No. 3.

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## ANURIA: ITS ETIOLOGIC AND SURGICAL PHASES.\*

BY HUGH CABOT, M.D., Boston, Mass.

**A**T the outset it is necessary to define the word "anuria," since confusion not infrequently occurs in regard to what constitutes this condition. Anuria exists when, from any condition, no urine reaches the bladder. Classified on a pathological basis there are two types of anuria:

I.—The secretory type, due to any condition which sufficiently deranges the secretion of urine. This type may be further subdivided into:

1. Those conditions which affect the blood supply, as in thrombosis or embolism of the renal vessels.

2. Conditions which affect the nervous mechanism of the kidney, of which comparatively little is known, but are typified by the anuria seen in hysteria.

3. Conditions which affect the integrity of the renal tissue which covers conditions which destroy the kidney by any disease of the renal parenchyma.

II.—The excretory type which is due to obstruction of the ureters. This type may be further subdivided into:

1. Those conditions which obstruct the ureter from within, generally calculi, less frequently blood clots.

2. Those conditions which constrict the ureter from without, as in cancer of the uterus invading the broad ligaments or certain cases of pelvic tumors of other origin.

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\* Read before the Mississippi Valley Medical Association, at Cincinnati, October 27-29, 1914.—*Lancet-Clinic*.

This classification on a pathological basis is delightfully simple, but the conditions, in fact, as is so frequently the case, are not quite so accommodating. Neither the secretory nor the excretory type is ever quite pure. Thus, in the so-called excretory type, obstruction leads to damage of the renal parenchyma, which in turn introduces an element of greater or less importance on the secretory side. Cases are by no means uncommon in which prolonged obstruction of the ureter leads to kidney damage so extensive that when the obstruction is relieved the urinary output is satisfactory for a few days and then the secretory type of anuria takes a hand and the patient dies. Also, in the secretory type there is really obstruction more or less extensive to the straight tubules of the kidney and thus excretory obstruction.

For our purposes the clinical classification is perhaps more interesting, and this may be made in three divisions:

1. The neuropathic type.
2. The destructive type.
3. The obstructive type.

This classification is of importance because upon it must be based the treatment.

*Diagnosis.*—Of the fact of anuria no important doubt can exist since the passage of a catheter demonstrating an empty bladder at once brings us to this point. Our real difficulty lies in the differentiation of the various conditions which have led to this result. When faced with an empty bladder, which for one reason or another refuses to fill, the surgeon must bear in mind a long list of possibilities which require somewhat varying methods of treatment. For the sake of bringing these conditions to your mind, I will enumerate the most common which fall rather readily in four heads:

I.—Destruction of both kidneys by:

1. Malignant diseases (rare).
2. Bilateral tuberculosis.
3. Congenital polycystic disease of the kidney.
4. Chronic nephritis.

II.—Calculus anuria caused by:

1. Obstruction of both ureters with calculus.
2. Obstruction of one ureter and damage to the other kidney due to calculi without obstruction.
3. Obstruction of one ureter and a congenitally small kidney on the other side.

4. Obstruction of the only existing ureter due to:
  - a. Solitary kidney.
  - b. Horseshoe kidney with fused ureter.
5. Obstruction of one ureter with sound normal kidney on the other side.

III.—Obstruction of the ureters from without due to:

1. Malignant disease of the pelvic viscera (ureter or ovary).
2. Pressure from a benign tumor, such as a fibroid.
3. Bilateral congenital diverticulum of the bladder with pressure on the ureter.

IV.—Anuria without demonstrable cause.

The differential diagnosis among these possibilities brings into play almost every means of urologic diagnosis. It has been our boast that at the present time our methods of diagnosis in the upper urinary tract were more accurate than when dealing with any other of the deep-seated viscera. If we are to make good this assertion we must show ability to diagnose promptly and accurately the cause of anuria. I can perhaps show my own view of our methods of procedure best by relating a case in my own experience:

The patient was a hospital nurse, aged twenty-five, apparently well and strong. While on duty she was suddenly seized with severe pain, which referred to the region of the left kidney, accompanied by nausea and vomiting; temperature 102° F. and pulse 80. At the beginning of the attack about four ounces of urine was passed, and, fortunately, preserved. This specimen was normal in all respects. The anuria was total. General physical examination was negative. There was no abdominal or pelvic tumor, no tenderness or enlargement of either kidney, no elevation of blood pressure to suggest chronic nephritis, nor any change in the size of the heart showing hypertrophy and dilatation. X-rays were negative for stone in kidney or ureter. Cystoscopy showed a normal, though empty, bladder. Ureter catheters passed freely to both kidneys but drew no urine. The diagnosis of hysteria was made and confirmed by the course of events. Two subsequent similar attacks have occurred, in one of which the left kidney was cut down with, of course, negative findings. Had the surgeon who operated had faith in his methods of diagnosis this operation would have been avoided. In this case hysteria should have been suspected from the start on account of the fever, prompt onset of nausea and vomiting and previous good health of the

patient. Anuria of organic disease will rarely be seen in patients without a previous history of illness. It will be seen at once that the accurate diagnosis of the possibilities in such a case requires good surgical equipment and can not be made with certainty in the absence of good X-ray experts and a competent cystoscopist. Physical examination without these aids is extremely fallacious and commonly results in misdirected operation.

*Surgical Treatment.*—Operation must be considered and may be successfully done in all of the conditions leading to anuria except the bilateral destructive lesions and hysteria. I might perhaps qualify this statement by saying that operation in hysteria has frequently been done and followed by recovery, but it is the type of surgical success which we should strive to avoid.

*Operation in Cases of Acute Suppression Due to Acute Nephritis, Exacerbation of Chronic Nephritis or the Acute Congestion of the Kidney Which Accompanies Poisoning, as by Corrosive Sublimate.*—Operation is not generally considered as likely to lead to a favorable issue in acute nephritis, and one can not recommend it with enthusiasm. There are, on the other hand, perhaps, a small number of cases in which the kidney is overwhelmed by an acute toxemia while in a condition of comparative integrity, the suppression of urine being due to enormously increased intrarenal tension. Under these conditions without operation a fatal issue is practically certain and bilateral decapsulation offers a hope which should be considered. There are a sufficient number of successful cases already recorded to make operation under these conditions at least justifiable. To what extent the same doctrine should be applied to the acute exacerbations of the more chronic cases will depend entirely upon our previous knowledge of the damage to the patient's kidneys. If we have sufficient clinical data to assert that the amount of kidney tissue is still large, operation may be again considered justifiable.

In regard to operation in cases of corrosive sublimate poisoning, the situation is somewhat similar. The amount of kidney tissue is good, the suppression due to increased tension, and were this the only important existing lesion the case would be comparatively clear. In most cases, however, the damage to the intestinal tract is in, and of it is sufficient to cause death and the kidney is only a contributory factor. There remains, however, a small group of cases in which with a fatal issue staring us in the face, with the intestinal condition apparently not necessarily fatal, double

decapsulation is theoretically justified and has in practice proved successful. I can not avoid the conclusion that it should be considered.

In the cases of anuria due to benign tumor, which is, unfortunately, a rare condition, removal of the tumor is indicated. In those cases due to obstruction of both ureters by malignant disease in the pelvis bilateral ureterostomy will relieve the obstruction and prolong life. It may, however, fairly be doubted whether surgery should shoulder the burden of prolonging life under these conditions. At best the patient is possessed of an incurable disease which will certainly end her life and to prolong it by diversion of the urine, though surgically clever, may be humanely stupid. I have not yet seen a case in which I regarded it as desirable, though I have seen several in which it might have been done.

Calculus anuria offers a fertile field for brilliant surgical endeavor. Its treatment is always surgical and must stand squarely upon accurate diagnosis. This can be made with accuracy and certainty by means of a careful history, skillful physical examination, satisfactory X-ray pictures and efficient cystoscopy and ureter catheterization. The questions at issue are whether or not both ureters are obstructed; if so, at what points; if not, which is the obstructed side and what is the probable condition of the other side?

At this point I fear I can not avoid invading the controversial field of reflex anuria. This term is applied to those cases in which with sudden obstruction of one ureter the function of the opposite kidney promptly ceases. It is known that this very rarely occurs in the presence of a sound kidney on the unobstructed side, and for this reason many sound observers have shied at the use of the word "reflex" and declared that the suppression was due to simple overloading of an already incompetent kidney. To go extensively into this discussion would require a volume, but I can not avoid making certain suggestions to those who oppose the reflex theory.

There are a few well authenticated cases of anuria with obstruction of one side and a sound kidney on the other. Of these, that reported by Elliott is perhaps the most striking. It occurred in a patient with hypernephroma of one kidney which was secreting practically no urine. Sharp bleeding occurred when the ureter became obstructed and anuria followed. Autopsy revealed a sound kidney on the other side.

Again, I would suggest to the opposers that none of them



appear to shy at reflex anuria as a well observed fact in urological practice. All of them recognize the temporary anuria following ureter catheterization, as pure an example of the reflex as can be asked for. As far as I know, none of them deny the anuria following occasionally upon collargol injections into a kidney, and there is no denying the reflex character of the anuria of hysteria. Clearly, then, reflex anuria is a well-known scientific fact. Why deny it as a force operative in suddenly stopping the work of a kidney previously damaged by disease? It might further be added that the anuria which we see in calculus obstruction of one ureter and which the opponents of the reflex theory prefer to regard as due to the giving out of an overloaded kidney, notably comes on with extreme suddenness, a suddenness wholly uncharacteristic of the gradual failure of an overworked kidney, which, furthermore, is a condition accompanied by the evidences of uremia, which are notably absent in the reflex type. Looking at the question broadly, the arguments of those who oppose the reflex theory do not seem to me to comprehend admitted fact, and, while they excite my sympathy, they do not command my respect.

To return to the diagnosis of side and position in calculus anuria, which is an absolute prerequisite to satisfactory operation:

For the purposes of the patient it matters not whether the unobstructed side has ceased to work because of a reflex condition or of overloading. His safety lies in the relief of the obstructed side. This having been done, the other kidney will work without the aid of medical theories. The side and site of the obstruction can always be demonstrated if proper means are at hand. X-ray will generally show the site and position of the stone. The ureter catheter will demonstrate obstruction, and these two should coincide. If only one side be obstructed the catheter will pass freely to the other kidney, if such exists, which at once relieves us from responsibility for this side. The kidney on the obstructed side, or sides, universally shows evidence of embarrassment. It is enlarged, sensitive, frequently painful. Having demonstrated the position of the obstructing stone, or stones, operation is practically always indicated, as little or nothing is to be gained by delay. Too often we shilly-shally in the hope that the Lord will provide, and most of our cases come to operation after from four to six days of practically total anuria. It is to this delay that most of the mortality must be charged. In the early stages, operative relief is not severe and the mortality should be insignificant. In

the later stages we have combined excretory with secretory anuria and the mortality is that of the double lesion.

The type of operation is a matter of some interest. It has been the habit to advise nephrotomy in these cases, but I believe this to be an operation rarely necessary and to be avoided, if possible. With efficient diagnosis the site of the obstruction in the ureter may be known with certainty in advance and may exist upon one or both sides. Ureterotomy with removal of the stone and suture of the ureter is the operation of election, and, though perhaps more difficult than pyelotomy, is less hazardous than nephrotomy. In well studied cases it is the operation of election. Where certain data are lacking, as, for instance, a good X-ray, pyelotomy will always relieve the symptoms and sometimes allow of the passage of the stone. It is an easy, rapid, safe operation, free from the dangers of hemorrhage and shock. If both sides are obstructed, both must be operated upon at the same sitting. If only one is obstructed operation upon the obstructed side will release the inhibitory conditions on the other side, and no further concern is necessary about that kidney. In fact, the existence of a kidney on the other side is relatively unimportant as long as we have clearly demonstrated that if it exists it is not obstructed.

In looking over the reported cases, two things stand clearly in view: First, we have too frequently not used the diagnostic means at our disposal and have been too willing to go ahead with a half-baked diagnosis, and second, where thorough study has been given and all the necessary data are at hand, we have been unwilling to trust our facts or have been unable to give those facts their proper weight.

Case 1.—Woman, aged thirty-eight. Seen September, 1910. On August 19, 1910, when three months pregnant, was operated upon by Dr. Jones for acute appendicitis. Three days after operation marked hematuria with pain in lower abdomen, thought to be due to uterine contractions. Persistent nausea and vomiting. On eighth day, slight icterus, never severe. September 1, after increase of the hematuria, total anuria appeared, with marked restlessness and continued vomiting. After three days anuria catheterization of the ureters was suggested and refused. Patient went home. Returned the next day with continued nausea, vomiting and total anuria. On September 4, the fourth day of the anuria, cystoscopy and ureter catheterization with following results:

Bladder found normal. Catheter passed into left ureter displaces brownish, stringy material, suggesting a mixture of blood and mucus. Catheter passed to kidney without difficulty. Similar condition found in right ureter. When both catheters were in place there were violent contractions of both ureters not simultaneous expelling into the bladder worm-like masses of material such as above described. Ureter catheters and cystoscope then withdrawn. Within one hour a brisk flow of urine appeared, and 107 ounces were passed in the following twelve hours with complete disappearance of nausea and vomiting.

No further recurrence of symptoms. Patient discharged well upon the ninth day. Seen in September, 1911, in good health without urinary symptoms, having gone through normal labor eight months previously.

Case 2.—Man, aged thirty-three. Seen in March, 1911. At the age of sixteen is said to have passed gravel and had an attack of pain in the right kidney. In 1908, suprapubic cystotomy for vesical calculus. In 1909, right kidney removed for calculus pyonephrosis. In the same year another cystotomy done with diagnosis of calculus. No stone found. During next two years repeated attempts to close suprapubic sinus finally successful.

When first seen by me, March 2, 1911, he gave a history of having been comfortable from December, 1910, until February 28, 1911, when he waked in the morning with general malaise and fever. In the afternoon, attack of sharp pain in the left loin with painful and frequent micturition.

March 1, three chills, followed by anuria. At the time of entrance bladder empty. X-ray showed a small stone in the ureter just below the renal pelvis. Immediate operation, pyelotomy. Stone slipped back into renal pelvis and was lost. Kidney much enlarged, edematous, evidently infected. Following operation, free secretion of urine for a few days, then gradual diminution with continued fever. Death on the seventeenth day from uremia.

Autopsy showed left pyonephrosis, suppurative nephritis, abscess and necrosis of the left peri-renal and retro-peritoneal tissue, absence of right kidney.

This case shows the combined effects of excretory and secretory anuria.

Case 3.—Man, aged forty-six. Seen in August, 1914. Five years ago an attack of left renal colic, and urine at this time contained pus, blood and albumin. X-ray showed many calculi

in the left kidney. Operation advised and refused. Continued to have some pain in the left kidney during the next few years; never severe.

On August 19, 1914, an attack of pain in the region of the right kidney, followed by diminution of urine on that day, with total anuria on the next. When seen by me on August 25, he had been totally anuric for five days. Very little pain; good general condition; no nausea or vomiting.

Physical examination unimportant except for enlargement and tenderness of the right kidney. X-ray showed a mass of stones in the region of the left kidney and a vague shadow in the lower portion of the right ureter.

Operation upon the right kidney showed it much enlarged, pelvis much distended, as was the ureter to a point below the pelvic brim. Pyelotomy evacuated a quantity of urine under considerable pressure. Renal pelvis drained with tube. On the following day began to pass urine freely from the bladder, and after the first two or three days no urine came from the tube in the loin.

On September 18, operation was done upon the right ureter with the removal of a quantity of chalk-like material collected in a dilated ureter just above the bladder but not at this time obstructing the ureter; recovery.

## GONORRHEAL RENAL INFECTIONS. A REPORT OF TWO CASES. TREATMENT AND RESULTS.

BY FRANK B. HOOVER, M. D., Memphis, Tenn.,  
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**T**HE number of cases of gonorrhoeal renal infection reported to date is very few.

Referring to an article by Dr. Louis C. Lehr, of Washington, D. C., which was read before the American Urological Association in New York in 1912, we read that the cases reported to that date numbered about 20. "In 5 the gonococcus was obtained from the voided specimen. In 2 the pyelitis was due to a mixed infection; in 4 no cultures were obtained; in one a nephrectomy was done and the diagnosis was made from the removed specimen. In 4 the disease was recognized at autopsy. In only 4 were cultures obtained from the kidney during the course of the disease."

In this article Lehr reports one case, and one other case report came to the writer's notice last year, the author of which he is not able to recall.

If the writer is correctly informed, then the cases that have been reported so far are less than 30, and the cases in which cultures were obtained from the kidneys during the progress of the disease are only 6.

The writer truly believes that this number falls far short in representing the number of cases that have presented themselves for treatment. Further, that if each case of gonorrhoea persisting beyond a reasonable period (if on proper treatment, and especially those cases presenting vague back pains which are so often attributed to the prostatic or seminal vesicular involvement) were investigated for involvement of the upper urinary passages, we would have a large increase in the number of this class of cases appearing in our future literature.

It was the writer's searching for additional colon bacillus renal infections that led to the diagnosis of the first case. The second case consulted him within the next few days.

The treatment in these cases was done entirely in the office, both patients suffering practically no inconvenience and being able, as soon as the treatment was finished, to leave the office and go about their business. The report of the writer's 2 cases follows.



Case 1.—B., white, male, *act.* thirty-five, single; occupation, dentist. Patient consulted the writer on August 9th, 1913, giving a negative venereal history until five years ago, no other illness that could have a bearing on this trouble being reported. Five years ago the patient contracted gonorrhoea. He is unable to remember what sort of treatment he received. At the third week both epididymi became involved, confining him to bed for six weeks. Ever since this the patient has been able to detect a small morning drop. About one and one-half years ago he complained of dull pain over both kidneys, never of a distinctly radiating character, but severe enough to cause him to give up his practice. Recently patient has noticed pain only in the left kidney region, this occasionally radiating to the left testicle. These radiating pains, however, were not at all severe and caused no desire to urinate. Until last year patient has been bothered with night urinations; since then, however, this has ceased.

There has been no copious discharge, but a persistent morning drop has been present and patient has been able to milk out a scant discharge mostly any time in spite of the fact that he has been under almost constant treatment of various sorts including prostatic massage, sounds, dilatations with a Kollman dilator, irrigations and instillations.

Now patient complains only of persistent gleet discharge and occasionally the pain in the left kidney region. Examinations revealed a scant watery urethral discharge which in the stained smear showed only colon bacilli, no gonococci being seen. The testes were normal size and not tender. Both epididymi were slightly indurated. The prostate was very slightly enlarged, somewhat elastic, but not tender to touch. The prostatic secretion in the stained smear showed what resembled colon bacilli but no gonococci.

The kidneys showed no tenderness on pressure and were not enlarged. The writer decided on a bladder culture and cystoscopy, and because of an extremely small meatus did a meatotomy.

On August 13th, a bladder culture was taken after the urethra had been thoroughly irrigated and a cystoscopic examination made. Cystoscopy revealed a slight general blush of the bladder mucosa—a more intense hyperemia in the region of the trigone. No ulcerations and only slight trabecularization. The ureteral orifices were moderately congested. During the cystoscopy some pus flakes appeared in the solution in the bladder, although the urine spurt from either side was apparently clear, with no indication of pus.

The bladder culture revealed multiple groups of gonococci. A deep stricture prevented the passage of the catheterizing cystoscope; hence for the next four days sounds and protargol instillations were instituted. Then both kidneys were catheterized after a very careful bladder lavage, and cultures were made

on blood serum, ascitic agar and ordinary media. The culture report showed in the right kidney numerous gonococci and a few colon bacilli; left kidney, a few gonococci and numerous colon bacilli. It may be well here to remind the reader that the left side, the one showing numerous colon bacilli and a few gonococci, gave all the pain of late and that the other, the right side, with many gonococci and only a few colon bacilli, had produced no pain. On August 22nd, kidney treatments were commenced.

Both kidneys were catheterized with a No. 6 catheter, care being exercised to enter the orifices deliberately so as not to drag the catheter tips across the bladder mucosa. The pelves were then filled with 2 per cent. sterile boric acid solution and allowed to empty, this being repeated until the return solution was perfectly clear; then each kidney pelvis was filled with 5 per cent. argyrol solution by very slow injections through the catheter to the point of producing a pain sufficient for the patient to tell the writer which kidney he was injecting. This point was reached on either side in the first treatment when 4 c.cm had been injected. The catheters were now immediately withdrawn. No reaction followed this procedure. These treatments were given every second or third day.

Between these kidney treatments, two treatments daily were given. On every second day for one treatment, the prostate and seminal vesicles were stripped and massaged and a deep protargol instillation given. The other treatments consisted of a 1:5000 permanganate of potash bladder irrigation. On August 24th the writer irrigated the kidneys and injected 8 c.cm. of 5 per cent. argyrol into the left pelvis and 7½ c.cm. into the right.

On August 27th, 6 c.cm. were injected into each pelvis. August 30th, cultures were taken from both sides and 6 c.cm. argyrol injected in either side.

The report on these cultures showed the left kidney culture sterile after seventy-two hours' incubation, the right kidney showing a few gonococci and a few staphylococci albi, the latter probably being a contamination as it did not show up later.

On September 2nd, only the right kidney was irrigated and injected with 7¼ c.cm. 5 per cent argyrol.

On September 5th, a culture of this kidney was taken and 8 c.cm. argyrol injected. Culture report showed a sterile urine after seventy-two hours' incubation.

On September 7th, one shred appeared in the first glass of urine; the second glass was clear. In the stained smear of this shred a few gonococci and colon bacilli were seen. The writer then ordered a 1 per cent. protargol hand injection to be used three times daily and retained ten minutes. From this date on, prostatic massage, instillations and bladder irrigations were continued.

September 14th, a very scant discharge was present, but

examination of stained smears of this and the prostatic secretion showed no germs and only a few pus cells.

September 16th, a culture of the prostate was made and the tubes were negative.

September 18th, the urethra was dry, both glasses of urine sparkling, showed no shreds or specks.

Urine examination showed 1,010 specific gravity; acid reaction. A very faint trace of albumin with heat and acetic acid; no blood. Microscopic examination showed only occasional white blood cells and no casts.

All treatment was stopped and the patient immediately left for his home.

*Final Examination.*—Prostatic and bladder urine cultures showed no gonococci. At his request kidneys were catheterized and cultures made. The report reads: The case of Mr.— shows after seventy-two hours' incubation no growth in either right or left tubes.

Case 2. B., white, male, *act.* forty-one years, married; occupation, merchant. Consulted the writer August 19th, 1913, giving a negative venereal history up to eighteen years of age. At this age patient contracted gonorrhoea which lasted about two months and was treated with bladder irrigations and given a hand injection. Quickly following this attack a stricture developed, being dilated with sounds for six months. Sounds one year ago detected no stricture. Patient married at the age of twenty-three. Three children have been born, two before and one since his last infection occurred, which was six years ago. The wife's history, according to the patient's statements, is negative and shows no sign of an infection (a protection being resorted to on all occasions excepting when the last pregnancy developed).

With this second infection patient decided to treat himself and says he used "Big G" and everything anybody suggested whenever the discharge would get at all profuse.

About four months after this infection occurred, he developed a right-sided epididymitis with which he was confined to bed for about a month. Only hot applications were used. After this the case ran along with only the constant discharge for two years, when a recurrence of the right epididymitis occurred, again confining him to bed for a month. Ichthyol applications, hot applications and internal treatment were given. During and following both these attacks, for about two months, patient complained of bilateral pains which radiated from just above and posterior to the anterior superior spines down to the testes, these pains causing a desire to urinate; also at times he said he had vague back pains which he attributed to rheumatism. Ever since, a morning drop has been in evidence following any drinking or intercourse, and only drying up occasionally for short intervals when some astringent was used.

About a year ago he was treated with prostatic rubs, sounds and irrigations and told he was well, but the discharge persisted after this.

Patient has never been bothered with night urination. No backache or radiating pains have been present of late. On examination a scant watery discharge was found which in the stained smear showed colon bacilli but no gonococci. The right epididymus was slightly indurated. The left side negative. The kidneys were negative to palpation and pressure. The prostate was a trifle enlarged and a bit elastic. The right seminal vesicle was barely palpable. The left could not be felt. August 9th, cultures were taken from the bladder urine by catheterization and from the expressed prostatic secretion. These cultures showed only gonococci in the prostate and gonococci and colon bacilli in the bladder urine. Cystoscopy revealed a very slightly trabeculated bladder, a slight blush over the entire bladder mucosa with some slight engorgement of most of the surface vessels. The left orifice looked normal, but the right was congested and the mucosa immediately surrounding it was red.

August 22nd, double ureteral catheterization was done for a diagnosis by culture, and 5 per cent. argyrol injected just on suspicion. The culture report showed the urine from the left kidney sterile, and only gonococci in that from the right. August 25th, a right kidney lavage was given and 6 c.cm. 5 per cent. argyrol injected.

August 26th and 27th, a bladder irrigation of permanganate of potash solution. August 28th, another treatment was given the right kidney and 6 c.cm. argyrol injected. August 29th and 30th, bladder irrigations. August 31st, a culture was taken of right kidney and 6 c.cm. argyrol injected. This culture was sterile after forty-eight hours' incubation, culture made on ascitic agar. From this date until September 16th, patient was given a 1 per cent. protargol hand injection to use and a daily office treatment given. Permanganate of potash irrigations one day and a prostatic rub and protargol instillation the next. September 16th, a bladder urine culture was taken which showed Gram positive diplococci and no other growth. The writer considered this a contamination, but for safety's sake, on September 19th, irrigated the bladder thoroughly and injected 40 c.cm. of 5 per cent. argyrol which was retained several hours until voided.

September 22nd, a final double catheterization was done for cultures, and these showed a sterile urine in both kidneys after forty-eight hours' incubation. Following this the writer advised a rub and instillation every second day to tone up the prostate further. Repeated examinations of prostatic secretion revealed no germs. Patient was discharged October 9th, 1913, the urethra having remained dry for nearly three weeks. He resumed drinking and intercourse and reported frequently with negative findings.

November 7th, at the writer's request, he came for examination and reported having drunk heavily the night before. The urethra was dry. The urine voided was cloudy. Reaction, alkaline; specific gravity, 1,008. The cloud in the urine disappeared on the addition of dilute acetic acid, showing this was due to phosphates probably brought on by his previous night's excess. No shreds or specks were detected. Albumin test negative; blood test negative; microscopic examination revealed (1) numerous amorphous phosphates; (2) about one pus cell to the low power field (3) no red blood cells; (4) no casts. In both these cases a mild urinary antiseptic was given internally more or less constantly. No vaccines were administered. All cultures were made and reported on by Dr. Wm. Krauss, of Memphis.

These 2 cases, one a combined gonorrheal and colon bacillus infection of both kidneys as well as the lower urinary tract, the other a pure gonorrheal infection of the kidney (unilateral) but a combined gonorrheal and colon infection of the lower urinary tract, tend to show us

(1) The length of time these cases may persist, one five years, the other six, without giving rise to any distinct severe symptoms referable to the kidney.

(2) The persistence of the urethral and prostatic symptoms in spite of treatment so long as this was confined to the lower urinary passages, but the rapidity with which these parts were cleared up once the renal infection had been cured.

(3) The finding of no nephritis as well as the rapidity with which these cases cleared shows the infection was confined to the pelvis.

(4) The tendency for the colon bacillus to present itself in the course of chronic gonorrheal cases.

(5) The rapid results obtained in the writer's 2 cases from injections of argyrol in amounts only sufficient to fill the pelvis.

(6) The harmlessness of this drug in 5 per cent. solution as shown by final urine examinations.

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## SOME EXPERIMENTAL WORK ON THE CIRCULATION OF THE TESTICLE.\*

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**I**N 1912<sup>1</sup> I reported two cases of cryptorchidism operated on by the Bevan method. In one of these the division of the obliterated vaginal process made possible the easy drawing down of the testis to the bottom of the scrotal pouch. In the other the vas was isolated with its vessels and the remaining structures of the cord double ligated and cut; the testis was then brought down to the bottom of the scrotum with a U suture.

In concluding my paper I referred to the paper<sup>2</sup> of Dr. Charles Davison, of Chicago, which I had read after operating on these cases. Later I had the opportunity of operating by this method on two cases, the first of which I have reported.<sup>3</sup> In the second case, one of bilateral undescended testis, while one testis was in the inguinal canal and easily brought down by the Davison method, the other was above the canal and very difficult to handle, in fact, the most difficult of five undescended testes in four patients, yet by the method under consideration it was brought through the canal into the shallow scrotal pocket burrowed for it, without division of a single structure in the cord.

The technic of Davison is most simply described by saying that, in the main, it consists in dividing the deep epigastric vessels between ligatures, dividing the double sheet of fascia—above and below the vessels—which lies between the transversalis fascia and Poupart's ligament, then swinging in the structures of the cord to the inner angle of the wound and suturing as in the operation for hernia. The vas is not at fault in cryptorchidism, being usually of ample length to permit the descent. The vessels, now relieved of the necessity of reaching the external ring by a circuitous route, including a double curve, are at this stage easily long enough to permit the testis to be drawn into the scrotal

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\* Read in Section on Surgery, Southern Medical Ass'n, Eighth Annual Meeting, Richmond, Va., Nov. 9-12, 1914.—*So. Med. Jour.*

<sup>1</sup> "Two Cases of Cryptorchidism Operated on by the Bevan Method" by Hermann B. Gessner, M.D., New Orleans, La. *N. O. Medical and Surgical Journal*, April, 1912, pp. 782-784.

<sup>2</sup> "The Surgical Treatment of Undescended Testicle" by Charles Davison, M.D., Chicago, Ill. *Surgery, Gynecology and Obstetrics*, March, 1911, pp. 283-288.

<sup>3</sup> "Davison's Operation for Undescended Testicle" by Hermann B. Gessner, M.D., New Orleans, La. *N. O. Medical and Surgical Journal*, March, 1913, pp. 641-643.

pouch. Here it is fixed by a suture involving scrotum and tunica vaginalis.

The practical question that arises is this: Is it worth while to go through the steps of the Davison technique in order to save the spermatic cord intact, or is Bevan right when he teaches the cutting of all the cord but the vas and its artery and veins?

The latter says: "These arteries (spermatic and artery of vas) anastomose freely, and it has been shown by clinical results, as in operations for varicocele, and by laboratory experiment, that either one can be ligated without interfering with the function of the testicle."

Davison maintains that the division of the spermatic vessels and of the nerves and lymphatics that accompany them is harmful, especially to a testis already poorly developed.

I shall now give the results of my own experiments on dogs in the Miles Laboratory of Operative Surgery in the Tulane University of Louisiana.

Seven dogs were subjected to experiment, of which one died under ether, one was lost and five were carried under observation for periods varying from 44 days to 199 days.

Dog I—Operated on February 18, 1914, under ether; the left spermatic cord was exposed; the vas with its artery and the accompanying veins, two in number, was isolated and the remainder of the cord divided between two ligatures of linen. Scrotum sutured with linen. September 5, 1914, 199 days after the ligation, again under ether; scrotum reopened; left testicle about one-fifth the size of right, and much harder to the touch.

Dog II—Young dog; operated on March 2, 1914; same technique (left side); scrotum reopened July 25, 1914, 145 days after the ligation, again under ether; no trace of the left testis or cord could be found.

Dog III—Operated on April 13, 1914, by same technique (right side); July 25, 103 days after the ligation, again under ether, the scrotum was reopened; the right testis was about one-third the size of the left, and much harder to the touch.

Dog IV—Operated on April 13, 1914, by same technique (right side); scrotum reopened September 5, 1914, 145 days after ligation; a small body, about one-tenth the size of the left testis, was found.

<sup>4</sup> "Keen's Surgery, Vol. IV, pp. 588-615.

Dog V—Operated on September 23, 1914, by same technique, with this exception, that the vas was accidentally divided (left side); scrotum reopened November 6, 1914, 44 days after ligation and division of vas; left testis about one-fourth the size of the right.

In each instance one testis alone was operated on, keeping the other as a control. The relative sizes given do not exactly represent the amount of atrophy, as the control testis uniformly increased in size to a degree difficult to measure accurately.

It will be observed that in four cases the testis whose cord was mutilated by the division between ligatures of everything but vas, artery and veins of vas, was much diminished in size. In one instance no trace of testis or cord could be found in spite of diligent search. This is puzzling and may possibly be accounted for by mistaken identity in dogs, though pains were taken to identify the animals and keep them secluded. This occurrence was in a young dog, which fact is interesting and may explain the circumstances.

In order to follow these changes still further, companion specimens of atrophied testis and control testis were submitted to Dr. Herbert Windsor Wade, Assistant Pathologist of the Charity Hospital of New Orleans, whose report in three of these pairs was as follows:

#### DOG I.

**Control Testicle:** Normal in appearance as regards size and gross structure. Microscopically, two sections of this testicle show typical normal testicular tissue. One, of testicle proper, is made up of large, cellular gland spaces showing very active spermatogenesis. Very little supporting connective tissue is present; the intertubular strands are thin and the fibrous capsule of the organ does not extend into the organ. A section of epididymis shows the tubules large and filled with sperm.

**Ligated Testicle:** In appearance the tissue presented is small, pale and neither on surface inspection, nor on section can it be identified as testicle. Four sections are made at different levels. Microscopically no testicular glands whatever can be made out. One section is made up largely of irregular bands and small masses of connective tissue. Many of the larger strands are hyaline in appearance. Although there is no definite arrangement of these strands, there is seen a general tendency to the formation

of whorls, suggestive of the probable replacement of glandular tissue with fibrous tissue. A striking feature is the concentration of bundles of smooth muscle fibres throughout the section. The larger conducting tubules of the epididymis, etc., are apparently present in proper number but are small and contracted. About such tubules is seen an unusually large zone of smooth muscle fibres. In one section there is, in the fibrous tissue, a greater or less infiltration of lymphoid and plasma cells with an occasional collection of a few polymorphonuclear leucocytes. One small area shows an accumulation of blood pigment.

#### DOG IV.

Control Testicle: Negative.

Ligated Testicle: Four sections from this tissue show a condition in the main similar to that described in that from Dog No. 3, but differing in that beside an irregular fibrosis, there is a deposit of fat among the strands of connective tissue. No recognizable trace of spermatogenic tissue is present in any of the sections.

#### DOG III.

Control Testicle: The section studied passes through testicle, epididymis and two layers of capsule. The picture presented is very different from that in Dog I. The individual glands are small, the interstitial tissue relatively large in amount, cellular and rich in capillaries. In few of the tubules is the lumen apparent. The basal layer in the majority show relatively few nuclei and these stain palely. The protoplasm is very "stringy" and fibrillated. Little mitosis is seen. Many of the tubules contain one or more very large cells, near the lumen. Some of these are multinucleated. The tubules of the epididymis are empty.

Ligated Testicle: The gross morphology of this is retained, though the size is greatly diminished. The tunica and a section through the entire organ is present in each of the three sections taken from different layers; while the conducting tubules are small, they are histologically normal. There is, however, no remnant of true testicular tissue; this is represented by areas of fibrosis, in which are quite numerous blood spaces. In one section an area of considerable size is seen, in which there are few but large pigmented phagocytic cells, with occasional strands of connective tissue. This is suggestive of the resolution of hemorrhage.

In my own experimental work the aim was to allow sufficient time to elapse so that collateral circulation and compensatory increase in vessel calibres might develop and the final result of the ligation might show. It is interesting to see the results of experimental work done by Miflet<sup>5</sup> many years ago, showing the early changes caused by ligation. He made five experimental ligations of the spermatic artery and of the veins of the cord, isolating the vas, deferential artery and their veins. The affected testis was removed in 48 hours, 72 hours, 5 days, 4 weeks and 6 weeks, his longest period of observation being 42 days, as compared with 44 days in my shortest period. He reports the testis enlarged in all but the six weeks' observation, in which it was of normal size. Microscopically the reports were, in order:

No. 1, "parenchyma red, edematous;" No. 2, "beginning degenerative changes, parenchyma cells lack definition;" No. 3 "parenchyma cells not distinguishable;" No. 4, "complete degeneration of parenchyma;" No. 5, "practically same as in No. 4."

I believe that a strong case is established by these ten observations, five early and five late, against any avoidable division of the whole cord excepting the vas, its artery and veins. So far as clinical results are concerned, it must be remembered that when operations of this kind are performed on one of a pair of organs the function of the sound organ cannot be eliminated. I believe that if the testis were a single organ the functional results of the mutilation done in one form of the Bevan operation and in the varicocele operation, as frequently practiced, would long since have led to the elimination of these methods.

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<sup>5</sup> Dr. J. Miflet, *Archiv f. Klin-Chirurgie*, Bd. XXIV, pp. 399-428.



REPORT OF A CASE OF CONGENITAL MULTIPLE  
CYSTIC DISEASE OF THE KIDNEYS IN WHICH  
ONE KIDNEY WAS REMOVED.

BY FRANCIS S. WATSON, M.D., Boston, Mass.

THE case of the patient which is here reported is thought worthy to be published because of the fact that the conditions existing in the kidney which determined its removal were somewhat exceptional, though by no means unknown, and because the patient having multiple cystic disease of the second kidney nevertheless has lived for six and a half years since the operation and has been well enough to work during the larger part of that time.

The patient, a young man twenty-five years of age, was admitted to the surgical service of the Boston City Hospital in March, 1908, having been attacked four days previously while being in good health so far as he was aware, with severe pain in the left loin and left upper quadrant of the abdomen.

He had vomited once or twice at the onset of the pain but not since. When admitted his temperature was 100.5°, pulse 90, full and regular, tongue coated. He was feeling weak and somewhat exhausted, was pale of complexion, and looked a sick man. Physical examination was negative except with regard to the right side of the abdomen. On this side the abdominal muscles were tense, and there was a decided sense of resistance to palpation. A tumor of large size could be felt occupying the right renal region and extending forward and downward to the border of the ilium. It presented the usual characteristics of a renal tumor. Cystoscope and ureteral catheterization showed the bladder to be normal. The urine drawn from the left ureter showed distinct differences from that which was obtained from the right one. Urine from left kidney had a sp. gr. of 1009, was pale in color, contained a good deal of pus and a considerable amount of microscopic blood. Albumen in larger quantities than would correspond merely to the blood present. No abnormal renal elements, casts or renal epithelium, or crystals, etc., were found. Urea diminished. The urine from the right kidney had a sp. gr. of 1018, was of normal color, and showed a faint trace of albumen. Urea normal in quantity, color normal, solid constituents practically

normal, no pus, an occasional hyaline cast. The last named, and the trace of albumen were the only abnormal elements present in the urine from that kidney. The right kidney was palpable and found to be larger than normal, however.

There was no tenderness on pressure over the right kidney or tension of the abdominal muscles, as on the left side of the abdomen.

There was no history suggestive of renal calculus, other than the present attack, but radiographs were taken of both kidneys and ureters, which failed to show the presence of calculus.

*Diagnosis.* Long-standing hydronephrosis with recently supervening infection of the left kidney and its conversion to pyonephrosis.

*Operation.* March 30, 1908. The left kidney was exposed by the lumbar incision parallel with the outer border of the quadratus lumborum muscle. This incision was extended later by a transverse cut from its upper end in order to permit the removal of the very large kidney which was found to be present.

The kidney was seen to be the seat of polycystic disease. It was about 22 cm. in length and ten cm. in width. A considerable number of the cysts within view were distended with blood, there were two areas of suppuration visible and in two other parts of the organ's surface a process of gangrene was beginning.

It was felt that the patient's life would be sacrificed if the kidney were allowed to remain, and despite the great probability that the second kidney was involved in the same condition of cystic disease, it was decided to remove the one that had been exposed.

The organ was too large to allow of its being taken out entire, and it was necessary to resect a part of it before this could be done. After being removed, another and larger area of gangrene was revealed nearer the upper pole of the organ, and on cutting the kidney in two a cavity filled with pus and of the size of a turkey's egg was laid open.

Further examination showed that there were two or three of the branches of the renal vein which were plugged by thrombi. The condition of the organ made evident the wisdom of the decision to remove it.

The patient made a rather slow but excellent recovery. Shortly after leaving the hospital the urine from the right or remaining kidney was free from pus and showed only the abnormal elements in the urine that have been mentioned above. The patient has

been seen by the writer on four or five occasions since, the last of which was a few days since on Nov. 23, 1914, or six years and nearly eight months after the operation. Despite the fact that the urine now contains pus, is of low specific gravity and has a rather large percentage of albumin, the man's general condition has been progressively better during the past year than at any previous time after the operation. He says, however, that he feels very weak and that during the past four months or so he has had rather frequent recurrent vomiting and loses his appetite and strength entirely during these times; between these attacks he has a good appetite and says he digests his food apparently very well.

The case seemed to the writer to present certain features of interest, chief among them, that while it is always regarded as a grave mistake to remove a polycystic kidney under ordinary conditions, because of the great probability of the actual presence of, or soon to be developed, disease of the same character in its fellow organ of the opposite side, yet there are conditions which may exist in one of the kidneys which so greatly imperil life at a given moment that there is far greater danger in leaving the kidney in which they exist in the body than in taking it out. The chance of prolonging the life of the patient to an important degree under these conditions will be indicated or its contrary be suggested by the evidence of good or poor functional condition of the kidney of the other side at the time when the question of nephrectomy arises. If that kidney is shown to be seriously involved already, it is, of course, obvious that it would be of little or no avail to remove its fellow organ, no matter if its condition was such as to immediately endanger life were it allowed to remain. If, on the other hand, the urinary examinations show that the functional condition of the kidney that is to remain after the operation is till capable, it would be a mistake not to remove its fellow under such conditions as were found in the case here reported.

The other point that is of interest is that a patient in whom the second kidney, that is to say, the one that is not to be operated upon, is functionally good at the time the operation is contemplated, may very probably secure a fairly long term of life, after the nephrectomy and will have his life saved from the danger that is at the time imminent. Moreover, there are a few exceptional cases in which the disease is and remains unilateral,

and in these there is no reason why the patient should not after being freed from the danger threatened to life by the conditions in the kidney that is involved in the disease called polycystic, live as long as most people do following the removal of the affected kidney.

When therefore a polycystic kidney is found to present such conditions as those found in this case, namely, areas of gangrene, and collections of pus, whether the cystic condition be very far advanced or not, it should be removed unless the urinary examinations of the product of the opposite kidney indicate that it, too, is too far involved in the cystic process to give a period of life afterward that is not sufficiently important to be considered. Then only would one refrain from doing a nephrectomy on its mate.

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## NEW COMPLEMENT BINDING REACTION IN SYPHILIS —PRELIMINARY REPORT.

BY STEVENS T. HARRIS, M.D., Atlanta, Ga.

**T**HE so-called Wassermann reaction and its modifications used for the diagnosis of syphilis are based upon the Bordet-Gengou phenomenon called complement fixation.

The theory of this phenomenon is explained by assuming that when (antigen) some substance such as a foreign protein toxin or virus of disease is introduced into a living body there results a reactionary substance or antitoxin called antibody, which has a specific affinity for the antigen when the two are mixed under proper conditions with the constituent, more or less normally present in the serum of animals, called complement. When the union takes place a certain amount of complement is bound up which is not available for a similar binding reaction, so that when washed blood corpuscles of one species (in this case an antigen) are later added to this same solution in the presence of its reactionary product from an alien species, for convenience called amboceptor, the previously bound complement cannot unite the blood corpuscles and amboceptor and cause solution or hemolysis of the corpuscles, thus giving visible evidence of the binding or nonbinding of the antigen and antibody. In case there is binding where a known toxin (antigen) of disease is used, the supposition

is that it could have united only with its own specific antibody, thereby proving the presence of the disease producing the toxin.

Now in the Wassermann and its modifications a great variety of substances, even extract of normal tissues of various animals, have been found to act as antigens and, further, antibody alone is sought for.

In view of the fact that the most ardent defenders of the Wassermann reaction and its modifications do not claim to always get positive results, that the reaction has been shown to respond in other diseased conditions, and sometimes even may be obtained in health, it occurred to me that there was something radically wrong with the procedure, though possibly not with the theory upon which it is based.

Believing that the syphilitic virus or antigen would produce its own specific antibody and respond to this alone, and that the antigen would be found in the serum, a search for it was begun. Knowing that heat at 55 degrees to 56 degrees C. applied for half an hour would destroy what is called complement; further that its prolonged application or heat at 72 degrees C. for twenty minutes, as has been clearly shown by Noguchi, would destroy what is known as antibody in syphilis, I investigated the possibility of the survival of antigen or part of it after the elimination of antibody by heat. The serum of a patient who was unquestionably clinically syphilitic, and who later responded perfectly therapeutically, was heated to 71 degrees to 72 degrees C. for 20 minutes; five drops of this serum, as well as that of others similarly treated, were used as antigens. With this change the most excellent technic of Noguchi was followed. It was found that the serum of syphilitics with antibody eliminated by heat acted as antigen and gave complement binding with the serum of other syphilitics. Serum which had given antibody reactions were in turn found to act as a finder for antigen in other serums which had been heated 71 degrees to 72 degrees C.

Some heat-treated serums used in excess seemed to alone bind complement, but I am not sure that all blood corpuscles had been eliminated from the ones where this was noted.

The complete Noguchi technic was used parallel with practically all of the test, and the results frequently coincided, but there were many variations in both directions. It was found desirable to accurately titrate the guinea pig complement.

Five drops of the 72 degree C. serum was arbitrarily adopted



and does not give as high a degree of complement binding as a rule as a paralleled Noguchi test would. It is quite likely that it would be found advantageous to use more than five drops of the 72 degree C. serum.

It may be that the degree of heat used can be less than 71 degrees to 72 degrees C., as some serums coagulate at this degree of heat. Coagulation would be a disadvantage to the application of this method. I am now investigating the necessary amount of serum and degree of heat. Possibly the coagulation might be prevented by the addition of other substances, etc., which would not interfere with the reaction.

If the method proves really specific in syphilis, the advantages to be derived from it are self-evident. It may be that the same method might be used in other diseases.

As tuberculin is known to resist very high degrees of heat, it seems logical that the tuberculous antigen would do the same. I am now investigating the application of the heat-treating method to its diagnosis, but am not at the present time ready to make a report in regard to it.

Specificity being the cardinal principle of the Bordet-Gengou complement fixation phenomenon, any system the practical application of which fails to comply with this law is in reality worthless as an accurate diagnostic procedure. It seems to be true that syphilis, for example, under certain unknown conditions, causes the production of antibodies which give complement fixation with a variety of substances used as antigens. We would suppose theoretically at least that each of these antibodies is specific for its own antigen. This would be the inevitable conclusion of the logical application of the theory as applied to this condition. To assume that the syphilitic virus produces one antibody which deviates complement with so many different substances used as antigens would discredit the whole phenomenon of specificity in this case.

In explanation of the action of known substances used as antigens which fix complement in the Wassermann reaction and its modifications it might be suggested that a number of antibodies are formed as a result of the pathologic changes and consequent altered metabolism produced.

If it is granted that the Wassermann reaction is specific there would be still much to be desired on account of the fact that antibody alone is demonstrated. Of course it is possible that

antibodies or antitoxins persist long after disease has disappeared, and in a great many instances even for life, as in smallpox, and even syphilis itself. So the demonstration of an antibody would not necessarily mean the presence of the disease which was its cause. To condemn one to a diagnosis of syphilis and its consequences merely on the finding of an antibody appears altogether wrong. In the heat-treating system we not only aim at specificity, but the demonstration of antigen as well as antibody.

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### THE FIELD FOR LOCAL ANESTHESIA AND OF SPINAL ANESTHESIA IN GENITO-URINARY SURGERY.

BY ARTHUR HALLAM CROSBIE, M.D., Boston.

**D**URING my present service at the Boston Dispensary, the importance of local anesthesia has been brought to my attention with such force that I feel that it is worth while to speak of some of its uses. Probably many others here are using it as much, but there may be many like myself who have hitherto neglected its use to the fullest extent in out-patient clinics.

The matter was especially brought to my notice by Dr. Rosenkrantz of Los Angeles who had just returned from three years' study and practice in Germany and Servia. He was shown several cases of epididymotomy that we had done for acute epididymitis. These cases had been done under ether either at the patients' homes or at a hospital. I was deploring the fact that we had many such cases that should be operated upon, but they could not go to a hospital nor could they have it done at home. He suggested doing the operation at the clinic under local anesthesia, although he had not seen it done. I felt that it was too much of an operation for an out-patient clinic. Very soon, however, I operated upon two cases of acute epididymitis, using a 2% solution of novocaine, to which had been added a small amount of adrenaline. The results were so good that now Dr. Augustus Riley and I do even the most acute cases under it. We use from 20 to 30 c.c. of a .5% to 2% solution of novocaine to which are added from 3 to 6 drops of adrenal solution 1-1000. We use

usually 1% novocaine as it seems to give just as good anesthesia as 2%, especially when used with adrenal solution.

The method we use is much the same as Braun, in his recent book on local anesthesia, advocates for any operation on the testes. The best syringe is a 10 c.c. glass syringe with a two inch needle. The first step is to infiltrate the cord. This is done by grasping the cord, at the point where it emerges from the external ring, between the thumb and forefinger of the left hand. From 5 to 10 c.c. of solution is injected in all directions into the cord in order to be sure to block all the nerves in the cord. It is well also to inject a little into the inguinal canal itself. This is done to get complete blocking. The needle is then pushed downward along the cord to the region of the globus major and a little more solution injected. The scrotum is then circuminjected, on the side to be operated on, all the way to the perineum. This injection is made where the scrotal skin merges with the skin of the thigh. Even though the operation be unilateral, Braun recommends anesthetizing the scrotal skin all the way around, the same as one would for a double operation. We have not found this necessary as we get complete anesthesia by injecting the one side. Finally, a little novocaine is injected into the skin along the line of incision. In order to get perfect anesthesia it is well to wait ten or fifteen minutes. With the anesthesia thus obtained any operation may be done on the scrotum or testicle without pain. We have found that patients having an epididymotomy done under this form of anesthesia are able to walk out after the operation in comparative comfort. Such patients report back to the clinic for dressings.

The above method is suitable for epididymotomies, resecting spermatoceles and hydroceles. It would work well for varicoceles, but we do not use it in the out-patient clinic because of the danger of local bleeding. A patient after a varicocele operation should remain in bed for a few days.

A modification of this form of anesthesia works excellently for circumcision. The method is much the same, a ring is infiltrated about the base of the penis close to the pubes. A little novocaine is injected into the corpora cavernosa as well. This gives complete anesthesia of the whole penis, so that any operation, such as circumcision, cutting strictures of the anterior urethra, operations for phimosis and paraphimosis or even amputation of the penis can be done without pain. I find this method

of especial advantage in doing circumcision, because in the old way of infiltrating the prepuce I was seldom able to get complete anesthesia and the infiltration rendered the parts worked upon very edematous, which was a great disadvantage.

For anesthetizing the urethra for cystoscopic work or cutting anterior strictures we have been using a 4% solution of alypin with very good results. We use as much as necessary to get complete anesthesia and have had no toxic symptoms from its use. It is injected into the urethra with an Ultzmann syringe and held in from five to ten minutes. For cutting anterior strictures some people use the alypin made up with a soluble lubricant, which is injected into the urethra with a urethral syringe. I can see no especial advantage to this method.

Braun recommends doing perineal section for prostatectomy and for external urethrotomies under local anesthesia, but most men in this country prefer ether or spinal anesthesia for such work.

Novocain is an excellent anesthetic for doing suprapubic cystotomies, especially in old people, to whom you prefer not to give ether. The method is very simple. With a ten c.c. syringe, the skin, subcutaneous tissues, muscle and prevesical space are infiltrated with a 1% or 2% solution of novocain and suprarenin. After waiting the usual length of time for the anesthetic to take effect, an incision is made down to the bladder wall. It is well then to inject a little 2% novocain into the bladder wall itself. The bladder can then be opened and drained without pain, provided you do not make traction on the bladder wall or press upon it. Traction and pressure on the bladder wall cause pain, even after the use of novocaine.

The anesthetic of choice for prostatectomy, either suprapubic or perineal, especially in feeble old men is spinal. The solution of choice is tropococaine.

Spinal anesthesia when properly given should produce satisfactory anesthesia for from three quarters of an hour to an hour and a half. In using spinal anesthesia for patients that are put into the lithotomy position care must be taken not to put them up into position for fifteen or twenty minutes, on account of the danger of producing too high an anesthesia.

The advantages of spinal anesthesia in these cases are many. First and foremost stand the lack of shock due to nerve blocking and the lack of ill effects on the kidneys.

The genito-urinary surgeon, more than any other surgeon, has to deal constantly with kidneys that are below par. An old man with long standing prostatic obstruction and constantly over-distended bladder has kidneys which have been weakened and their excreting powers lessened by the back pressure. The surgeon has to conserve the ability which such kidneys have left and must seek to improve it as soon as possible.

Ether does irritate the kidneys and spinal anesthesia does not. That in itself is reason enough for its use. In many of these cases it is of the utmost advantage to push water into them at the earliest possible moment to the limit in order to stimulate the kidneys to secrete properly. After ether it frequently happens that there is nausea and vomiting for several hours and fluid has to be introduced under the pectoral muscles or else let the patient go for several hours without enough fluid, thereby inviting the kidneys to shut down and produce uremia. Using spinal anesthesia, water can be started at once, even during the operation. There is no doubt that many poor risks are now saved by using spinal anesthesia who would have been lost by the use of ether.

The disadvantages of spinal anesthesia are its toxic elements and the fact that it is sometimes difficult to use in neurotic, high-strung people. The toxic dangers have been pretty well eliminated by the perfection of the drug used. Highstrung patients are often helped by injections of morphine given some time before the operation.

I have not undertaken to describe the method of giving spinal anesthesia, as it should be done by a specialist and is not part of the surgeon's work.

There are many more genito-urinary operations that can be done under local anesthesia, in fact most all such operations can, although in kidney work it is not very satisfactory except where it is necessary only to open a perinephric abscess or something of that sort in a patient who is too sick for ether.

In this paper I have attempted to show especially what can be done with local anesthesia in a genito-urinary out-patient clinic.



## THE PROGNOSIS AND TREATMENT OF ACUTE NEPHRITIS.

BY JOHN PHILLIPS, M.B.,

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IN considering the prognosis of acute nephritis, there are three obvious possibilities. First, the disease may terminate fatally as the result of the primary condition or complications; second, the patient may recover with a damaged kidney so that he is liable to have, at any time, an acute exacerbation of the now existing chronic nephritis; and third, the patient may make a complete recovery. Many clinicians claim that there is no such fortunate result as complete recovery in acute nephritis, that the kidney is damaged, and though the nephritis may remain latent for a great many years, it eventually will become active. The question of recovery, too, depends upon the cause, those cases of nephritis which follow acute infections, such as tonsillitis, being more likely to terminate favorably. When one takes into consideration patients seen in private practice, where they can be kept in bed a sufficient length of time, and where the diet can be carefully supervised, the prognosis is not so gloomy; indeed, as far as one can possibly judge from physical examination and urine analysis, recovery may take place even when the albumin was present in very large quantity, and the edema persisted for three months, as illustrated by the first case reported below.

CASE 1.—Mrs. B., aged 36, seen July 8th, 1909, because of an acute infection of the antrum of Highmore on the left side. At that time she had a temperature of 104, and two days later she had some puffiness under the eyes. The examination of the urine revealed a large amount of albumin—six grammes to the litre, and numerous hyaline, blood, and epithelial casts. Within the next few days she developed a general anasarca with fluid in the pleural and peritoneal cavities. Her albumin persisted during the next three months, in amounts varying from three to eight grammes per litre. At the end of that time she began to grow rapidly better, her edema disappeared and the albumin grew steadily less, so that at the end of another three months there was only a very faint trace and no casts could be made out. She spent the winter in the South, and on her return no albumin or casts could be found in the urine and she has remained in good health ever since.

CASE 2.—G. B., boy, 5 years of age, seen in April, 1913. After an attack of naso-pharyngitis complicated by inflammation of the cervical glands, he developed a severe hemorrhagic nephritis, with some general anasarca. The urine looked almost like blood, specific gravity 1030, albumin four grammes to the litre, and microscopic examination of the sediment showed numerous red blood cells, blood casts, hyaline and epithelial casts. With rest in bed, baths and regulation of diet, the urine gradually returned to normal, all the albumin disappearing. The urine has been examined every two months since that time and no albumin can be found.

CASE 3.—R. S., male, aged 22 years, street car conductor, seen in March, 1907, because of severe streptococcus tonsillitis. One week later he developed an acute nephritis with six grammes of albumin to the litre and numerous hyaline, epithelial and blood casts in the urine. He remained in the hospital six weeks and at the end of that time all the casts had disappeared from the urine, and there was only a faint trace of albumin. At the end of two months the urine was normal and the patient has continued in perfect health. Although the urine has been examined every six months, nothing pathological can be found.

CASE 4.—J. L. Male, aged 13 years, seen April 10, 1914, because of scarlet fever. In the second week of his disease, he developed an acute nephritis with some general edema. The urine showed three grammes of albumin to the litre, and numerous casts. In the fifth week he had an acute otitis media on the right side followed by mastoid infection, for which he was operated. He made a good recovery from this, but the albumin persisted for three months, gradually disappearing. His urine has been examined at frequent intervals during the past seven years and has been normal.

The cases above reported illustrate very well the types of cases with acute nephritis, that physicians see in private practice. In all of them there has been complete recovery as far as one can determine by urine analysis, blood pressure determinations, and lack of cardiac enlargement.

During the acute stage of the disease valuable assistance in estimating the prognosis may be obtained from the estimation of the phenolsulphonephthalein output, and also from the determination of the nonprotein nitrogen in the blood, as recently indicated by Tileston.

In the treatment of acute nephritis the most important thing to be considered is prophylaxis. As far as possible children should be protected from acute infections. This not only applies to the contagious diseases, such as scarlet fever and diphtheria, but to common colds, as nothing is more contagious than the latter. Medical supervision of schools can accomplish a great deal in this direction. A child with an acute cold should be excluded from school. The importance of this is realized when one considers the complications such as otitis media, cervical adenitis and pneumonia, that may follow a simple "head cold." If the patient develops an acute infection he should be kept in bed. This is particularly true of scarlet fever and diphtheria, in which the child should be kept in bed at least three weeks and the diet should be carefully supervised. No focus of infection should be allowed to remain untreated. The most common sites for foci of infection are the teeth, tonsils, and sinuses in communication with the nose. Considerable emphasis has been laid on the relation of these foci to general systemic infection by Billings, Rosenow, and others, and the relation of these to acute nephritis should not be overlooked. I have seen recently an acute hemorrhagic nephritis following an infection of the hand. It is important too, to avoid the use of such renal irritants as arsenic and mercury in those diseases which predispose to renal complications. Furthermore, drugs which act as irritants to the kidneys should not be applied in ointments over large surfaces of the body. Long exposure to cold should be avoided. Siegel allowed puppies to stand in ice water for ten minutes and then returned them to cold cages without drying. A number of these developed nephritis, whereas control animals that were properly dried and put in warm cages were unaffected.

The indications in the treatment of acute nephritis are (1) to limit the extension of the inflammatory condition of the kidney; (2) to reduce the work of the kidney to a minimum by restriction of diet and increased functioning of the skin and bowels; (3) the treatment of special symptoms such as uremia and edema as they arise.

The patient should be put to bed, between blankets, and the temperature of the room should be 68° F. Good ventilation is important. It is very important that the patient's stay in bed should be prolonged until the active manifestations of the disease have subsided. In hospitals the patient is often sent home too soon and he quickly relapses back into his former condition. I

am convinced that one of the chief reasons for our often unfavorable prognosis in nephritis, is the fact that patients are not kept in bed a sufficient length of time to recover.

The bowels should be kept freely opened so that two or three watery stools are obtained each day. Saline cathartics are indicated. The best of these are magnesium sulphate, magnesium citrate, sodium phosphate or, if the stomach is irritable, calcined magnesia. In some cases where there is difficulty in getting a free movement of the bowels, compound jalap powder or elaterium may be given.

The diet should be easily digested and should be such that it places as light a burden as possible on the organs of excretion. In the earliest stages of nephritis, milk is the most suitable food, but later a more liberal diet may be allowed. Foods which irritate the kidney should be avoided. Among these may be mentioned meat soups, condiments such as pepper, mustard and horse-radish. The proteid should be restricted to 50 grammes daily. As the recovery proceeds this amount may be increased to 85 grammes. To obtain a sufficient number of calories, cream and sugar may be added to the milk. Cream may also be given in the form of cream soups, with cereals or bread, or by diluting it with equal parts of seltzer or Vichy water. In the later stages of the disease, cereals, fruits, bread, potatoes and eggs may be allowed. The amount of salt in the diet should be limited. The chlorides retained in the tissue requires a certain amount of water to maintain them in the proper molecular concentration, thus leading to edema. A safe rule to follow is to limit the salt intake to two to three grammes daily. The strict limitation of salt is not necessary after the edema has disappeared. Coffee, tea, tobacco and alcohol should be restricted.

It is important too, in cases in which edema is present to limit the total quantity of fluid intake. Probably as good a rule as one can follow in the majority of cases is to give sufficient water to quench the patient's thirst. When in doubt regarding the permeability of the kidney for water, the intake and output should be carefully measured allowing 500 cc.'s for elimination through the bowel and skin. A further check is systematic weighing of the patient, any increase in weight when a restricted diet is being given suggests retention of water in the tissues. Under ordinary circumstances the maximum excretion in acute nephritis is obtained with one and a quarter to one and one-half quarts of

water daily. In the later stages water may be given more freely. Some authors advise once a week flushing out the kidney by giving 3,000 cc.'s of fluid during the 24 hours.

The most efficient means of elimination which we have at our disposal is by increasing the activity of the sweat glands. This may be accomplished by vapor bath, hot packs or hot air baths. The manner in which the sweat is given is of little importance, but personally I have found the most efficient results to be obtained by putting the patient in a hot bath until he begins to perspire, then to transfer him to a bed between warm blankets. An ice cap should be kept on the head during the whole procedure. In severe cases the sweats should be given every four hours, after two days, every six hours, and soon reduced to one or two daily. According to Strauss, the amount of water lost in a good sweat may be one litre. Kovesi has shown that there is included eight to nine grammes of solid matter, 2.86 grammes of which was sodium chloride and 2.08 grammes nitrogen. The value of the sweat does not entirely depend on the amount of water and solids excreted. The blood pressure is lowered so that the left heart is relieved of its work and such symptoms as dyspnea improved. In the first week a fall of blood pressure from 30 to 40 mm. is not uncommon.

*Diuretics.*—The best diuretic is water. The acetates and citrates have no particular value. Caffeine is useful in some cases, as is also diuretin and theocin, but the latter is often an irritant to the kidney. In cases where the heart shows evidence of dilatation the infusion of digitalis freshly made from good leaves is very valuable. In my experience this has been the most satisfactory of the diuretics. For the first two days it should be given in four dram doses every four hours. Some have recommended digipuratum, each tablet being equivalent to one and one-half grains of the dried leaf.

#### TREATMENT OF SPECIAL SYMPTOMS.

*Hypertension.*—With our present knowledge of the causes of high systolic pressure we do not always consider it good treatment to make attempts to lower it. In fact, high blood pressure may be considered an attempt to pass more blood through the kidney and thus increase elimination. In support of this view are the investigations of Loeb, who showed that lowering the blood pressure decreased elimination both of water and solids. However, if the blood pressure is extreme the danger to the heart



and blood vessels may be so great that one is justified in giving nitroglycerin to lower it. This ordinarily is not necessary, as the sweats and catharsis successfully reduce the pressure in the majority of cases. Venesection has been advised, but even with the withdrawal of 16 to 18 ounces the fall in blood pressure is slight. Hence it should not be used except in full-blooded patients.

*Edema* is best controlled by sweats, catharsis, and restriction of the fluid intake. If there is a large collection of fluid in the peritoneal or pleural cavities this may be removed by paracentesis. Where there is enormous edema of the limbs Southey's tubes may be tried.

When anuria or uremia is present, the eliminative measures must be pushed to the limit. If there is edema, intravenous transfusion or the giving of large quantities of normal saline by rectum is contraindicated. For the nervousness preceding the onset of uremia great relief is obtained by the administration of bromides.

*Edema of the glottis* is best treated by application of cold, by scarification, or tracheotomy if necessary.

*Dyspnea* is usually of cardiac origin and the best results are obtained from the administration of digitalis. Withdrawal of fluid from the body cavities often gives speedy relief. For the severe nocturnal dyspnea no drug gives such marked relief as morphine. Especially is this true if there is a tendency to pulmonary edema. In the latter condition, if relief is not obtained by morphine, venesection should be done. Oxygen inhalations are sometimes beneficial.

*Gastric disturbances* are usually symptoms of uremia and are best treated by the general measures of elimination. Local measures, such as the use of soda, bismuth, are rarely of any value. Lavage is sometimes helpful.

*Headache* is best relieved by the application of an ice bag to the head. In severe cases the coal tar products may be used if the heart is in good condition. The most efficient drug is morphine. In very severe cases relief has been obtained by lumbar puncture.

*Anemia*.—During convalescence there is often severe anemia; this calls for the administration of iron and the best form is Basham's mixture.

*Convalescence*.—It is important that the patient be kept in bed a sufficient length of time for the kidneys to return to as near their normal condition as possible. It is important that the patient should avoid over-exertion, indiscretions in diet and exposure to

cold. He should spend the next two or three winters, if possible, in a warm climate. If he acquires any infection, even a simple rhinitis, he should stay in bed until he has recovered. With working men the selection of future occupation is very important. The most difficult and responsible problem that the physician has to shoulder is the regulation of the diet and mode of life of his patient, because on this depends in many cases the question of recurrence of the nephritis.

## REVIEW OF CURRENT UROLOGIC LITERATURE

ANURIAS OF UNDETERMINED CAUSE. *Dr. P. Bazy.*

Bazy reports in full two interesting cases. The first was that of a man of 73 who had had an attack of renal colic on the right side 30 years ago. For the past 20 years he had had five or six left sided attacks and had passed a small stone each time. His last attack was a year ago and the stone was expelled a month later. The calculi seemed to be formed of uric acid. On May 6, 1911, he was seized with a severe left sided colic, complete anuria, and severe vomiting. Examination on May 13, showed an enlarged and tender left kidney. X-ray pictures failed to reveal anything in the kidney regions but showed five shadows in the pelvis, one on the right side and four on the left. It was assumed that one at least of the latter was a stone situated near the ureteric oriñce. Accordingly, an attempt was made to catheterize the left ureter but with negative results. An incision was therefore made over the left iliac region and the vessels quickly exposed. The ureter was hard to find, first because of its enormous dilatation, and secondly because of its abnormal location, but it was finally recognized as a thin, tortuous, bluish structure, over one centimeter in diameter. It was punctured and urine obtained. A catheter was then passed into the bladder where urine was also found present. The patient had been previously catheterized and the bladder found empty. Although no stone was felt as the catheter was passed downward—nor up toward the kidney, for that matter—it was assumed that a ureteral calculus had been dislodged from the intra pelvic portion and the wound was closed with tube drainage. Recovery was uninterrupted: the patient stopped vomiting and normal urine was passed thenceforth in sufficient quantity, at first through the tube in the ureter opening and then per urethram. However, cystoscopy, done before natural micturition was established, failed to reveal a stone in the bladder, nor was any ever known to have been passed subsequently.

Another X-ray, taken June 2, showed exactly the same shadows as the first and an X-ray catheter introduced 9 cm. into the left ureter was shown to pass inside the innermost line of shadows. It was clear therefore that the shadows were not calculi and that this was not a case of calculous anuria. It now re-

mained to determine whether the appearances were due to phleboliths or to calcifications in the pelvic ligaments. That they were calcifications in the ligaments seemed unlikely because of their relative changes in position in comparing the two X-ray plates—changes too great to be accounted for by alterations in the position of the tube. It was therefore assumed that they represented something in the (movable) pelvic viscera, that they were in short phleboliths secondary to some venous inflammation. There was however no history of a process either in the intestinal nor in the genito-urinary tract which might lead to such an inflammation.

The following hypothesis was therefore invoked to explain the pathogenesis of this anuria: The patient had had renal colics always followed by the expulsion of calculi. Colic implies the arrest of the stone and there was probably dilatation of the ureter above this point. Repeated dilatation was accompanied by elongation, which was accompanied by kinking, which in turn caused more obstruction, and so on until the flow of urine was completely arrested.

The second case was that of a man of 68, who, when seen by the author, had had anuria for 6 days. The attack had begun with a sharp left renal colic. On examination he was found in good general condition. The left flank was somewhat sensitive. X-ray showed a shadow in the pelvis. A left iliac incision was accordingly made and the ureter exposed. This was found on careful inspection and palpation to be perfectly normal. The left kidney was next exposed and was found to present a large groove such as that seen between the two parts of a horseshoe kidney. There was, however, no perirenal edema and the pelvis and upper ureter were found free from stone and otherwise normal. Besides, the X-ray picture had shown no shadows in this region. A nephro-capsulotomy was then done; that is, the kidney parenchyma was incised for several millimeters along the external border of the organ and the capsule, which was found adherent in parts, stripped off to the pelvis. The wound was closed with drainage. Strange to say, the next day the patient voided 2700 cc. of practically normal urine. The following day he passed but 700 cc. After that there was again complete anuria, and the patient died four days later in coma.

The author regards this as a case of latent uremia in which, when in apparent health, the slightest cause may determine a complete cessation of renal function. The remarkable thing in this instance was of course the prompt though transient restoration of secretion after decapsulization.

The author mentions briefly a third case of anuria which was suspected to be of calculous origin but in which no stone was found.

ACQUIRED URETERAL REFLUX. *Dr. O. Pasteau.*

Pasteau quotes Legueu and Papin on the methods of proving the existence of ureteral reflux, viz.: 1) By the evacuation of the bladder by ureteral catheterization, 2) By filling the urinary tree with a simple bladder injection, verified by radiography, 3) By the reflux of urine from the opposite kidney through a nephrectomy wound.

Pasteau groups the occurrence of acquired ureteral reflux under the following heads: 1) In tuberculous cystitides where the ureteric orifice is crater like, lacerated, and gaping, 2) In cases of sub-meatal calculus or wherever the ureteric orifices are destroyed and sclerotic and are maintained in a patent condition by their very rigidity, 3) Finally, in cases where there is no demonstrable alteration of the ureteric orifice, of which the following is an example:

The patient had a right kidney removed for tuberculosis. Recovery was uneventful. Cystoscopy done before the operation revealed a cystitis of tuberculous nature especially localized about the right ureteral orifice which was ulcerated. The mucosa about the left orifice was perfectly normal, but the opening itself was open, rounded, regular, and non-edematous. After each ejaculation the orifice would gape, then there would appear to be a circular contraction in this region. Immediately thereafter the surrounding liquid (in the bladder) would be aspirated into the interior of the ureter. Catheterization of the *right* ureter was impossible but the left was easily entered. The discharge of urine was normal—the bladder was not evacuated through the ureteral catheter—but the urine thus obtained contained a very few tubercle bacilli. Of course it was perfectly possible that the bacteria thus obtained were sucked up from the bladder. An X-ray of a collargol injection of the bladder showed that the silver had entered the left ureter.

Cystoscopy three weeks after the nephrectomy showed a striking change. The right orifice was ulcerated as before but the left meatus was normal, well closed, with two thin and regular lips which opened completely at the moment of ejaculation, and were hermetically sealed thereafter. The author believes that this case demonstrates that in renal tuberculosis ureteral reflux may result either from a sclerosing or destructive ureteritis in which case the reflux is incurable, or from a cystitis with intense vesical contractions, when the condition may be transient and curable.

Pasteau feels that the possibility of acquired ureteral reflex should be kept in mind because the infection of a healthy kidney or ureter may readily take place by an inflow of infected urine from a tuberculous bladder. This fact is also of considerable practical importance because of possible errors in the interpretation of results of ureteral catheterization. Thus the presence



of a few tubercle bacilli in a specimen of ureteral urine need not necessarily indicate that the organisms came from the corresponding kidney.

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URINARY ABSCESS IN THE FEMALE. *P. Heresco and M. Cealic.*

Urinary abscess in the female has been heretofore improperly described as sub-urethral abscess. This process has its origin in the endo- (not peri-) urethral glands which are situated deeply even as far as the muscularis, and correspond to the glands of Littré, being the homologues of the prostatic glands in the male. Of course there is no denying that abscess may form in the peri-urethral glands, say from a hematoma or an incarcerated calculus. However the opinion that so-called sub-urethral abscesses have a purely urethral origin is based on the following facts: 1) The median situation of the abscess, 2) Its communication with the urethra, 3) In certain cases, where Skene's ducts (peri-urethral glands) are visible, they may be catheterized and it is found that these canals are free and have no relation to the abscess.

*Pathology:* The abscess beginning in the endo-urethral glands has the same possible complications as in the male except that instead of spreading to the peritoneum it seeks the urethro-vaginal septum and is therefore frequently followed by an urethro-vaginal fistula.

*Symptomatology:* Urinary abscess in women causes pain, frequency of urination, and a sensation of foreign body which the patient refers to the vagina. The urine is generally clear. The temperature varies between 99 and 101.

*Diagnosis:* Examination shows a tumor which may project from the vulva. The mass is fluctuating, painful and covered with an angry, red mucosa. On pressure pus escapes from the urethra. This pus generally contains gonococci.

*Treatment:* A median incision is made along the anterior vaginal wall. The sac is opened and resected if possible. The vaginal wound is then closed, a small gauze drain being left at the lower extremity. A permanent self-retaining (Pezzer) catheter is introduced into the bladder.

*Sequelae:* No case of fistula has been observed after this operation.

The authors report four cases.

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Journal d'Urologie, July, 1914.

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A CONTRIBUTION TO THE STUDY OF SYPHILIS OF THE BLADDER.

*G. Gayet and Dr. Favre.*

The authors review briefly the literature of the subject and mention the exhaustive paper of Lévy-Bing and Duroeux (*Ann.*

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Journal d'Urologie, July, 1914.

*des mal. vénér.*, Apr., 1913), previously abstracted in this journal. Gayet and Favre report three additional cases.

The first was that of a tabetic of 66, who had his chancre 44 years ago. Six months before admission he received a course of calomel and three injections of neosalvarsan for shooting pains in the legs. His urinary history dates back fifteen months with an increasing nocturnal pollakiuria which yielded to specific treatment. Six months ago there was sudden onset of pain in the perineum and hematuria. This was soon complicated by retention and secondary incontinence. Physical examination, locally, was negative. Cystoscopy was at first unsatisfactory on account of bleeding. Finally a clearer view was obtained. This showed an inflamed, trabeculated bladder, with a median projection in the region of the prostate. This was capped by an irregular ulceration and there were two small papules above the left ureteric orifice covered with a yellowish-white exudate. The Wassermann was reported positive and the patient, who had thus far been treated locally, was put on specific treatment. A week later the hematuria had stopped, and in six weeks cystoscopy showed that the infection of the bladder was less marked, the prostatic ulcer had healed, and the other lesions were cicatrizing. In about two months the bladder was still very dirty but the lesions had healed completely.

The second case was that of a woman who was a proven syphilitic. Eight days before admission she had a headache and an attack of pain in the arms which was diagnosed rheumatism. This was followed by a sharp hematuria with pain and frequency of urination. Cystoscopy revealed a prominence in the bas fond similar to an enlarged median lobe of the prostate. The mucosa here was angry and presented several small ulcerations with deep "cerebriform" fissures. The region of the neck was covered with papillomata. Neosalvarsan treatment was given. A month later the mucous membrane was less injected, but the papillae remained. The hematuria, however, had ceased. Ten days later the bladder was entirely healed save for a few reduplications of congested mucosa at the neck. In this case the cystoscopic picture was somewhat suggestive of a uterine growth projecting into the bladder but examination of the pelvic organs was of course negative.

The third case was not so well worked up as the other two. There was however a definite long standing history of syphilis, and a two weeks' history of hematuria with pain and frequency. Cystoscopy showed a median projection with an inflamed neck of the bladder. No ulcerations were seen. In about two weeks of specific—without any local—treatment the projection and the bas fond had disappeared but was replaced by two or three "cerebriform" convolutions. The symptoms had cleared up entirely.

The authors believe that from their cases they are able to

differentiate, cystoscopically, three stages of vesical syphilis. At the beginning (Case III) the mucosa shows a circumscribed infiltration, limited to the neck of the bladder and probably to the posterior urethra. There is localized edema and reduplication of the mucosa. The rest of the bladder appears normal or even pale. In the second stage (Case II) cerebriform convolutions appear on the floor of the bladder. These are very vascular and reddish-violet in color. They may increase to tumor size, small ulcerations may appear, and the hematuria may be considerable. Finally, in the most advanced stage (Case III) the ulcerations are large with much tissue necrosis and detachment, the hyperemia is intense, and there are severe hemorrhages which hinder cystoscopy. At this stage the picture may be complicated by secondary infection.

A CASE OF RENAL TUBERCULOSIS, OPERATED DESPITE A HIGH COEFFICIENT OF AMBARD, WITH RECOVERY. *Dr. Rafin.*

The patient was a man of 30, with an advanced tuberculosis of the right kidney, which manifested itself clinically by an enlargement of the organ, and a pyuria with a secondary staphylococcus infection. The integrity of the left kidney was demonstrated by ureteral catheterization which disclosed a clear, amber, urine, free from albumen and with a concentration of 13 g. of urea to the liter. The general condition was rapidly becoming worse. The operative indication was urgent, yet the coefficient of Ambard was bad. "When the renal insufficiency is such," says Ambard, "that the coefficient approaches 0.4, death is imminent. From actual observation it appears that there is danger in submitting to an operation requiring general anesthesia patients whose ureic constant exceeds 0.2."

In this case the constant was 0.32 on December 5, and 0.28 on December 12. Nephrectomy was done the next day. As a matter of fact, when, in cases of renal tuberculosis, the supposedly healthy kidney secretes a clear urine, amber in color, with a good urea concentration (thus showing that it has retained its concentrating power), and when this urine contains neither pus nor albumen, the author always intervenes (as he has done these twelve years) without hesitation. In this case, despite the poor constant, he obtained a perfect result from every point of view: The anesthesia was uneventful, the wound healed in normal fashion, the general condition improved, and the urinary symptoms as well as the tubercle bacilli, disappeared from the urine.

Rafin feels that it would be a grave injustice to deprive patients of the benefits of a nephrectomy for the mere reason that the ureo-secretory constant would presage an untoward result.

PYELONEPHRITIS OF PREGNANCY TREATED BY URETERAL CATHETERIZATION, FOLLOWED BY NEPHRECTOMY. *V. Hourtoulé.*

The patient, in the fourth month of her third pregnancy, was sent to the hospital with a diagnosis of acute appendicitis. There was a history of sudden right sided abdominal pain, fever, vomiting, obstipation and frequent, painful urination of small amounts of dark, cloudy, urine. Examination, however, showed that there was distinct tenderness and rigidity in the right loin and along the course of the right ureter. Cystoscopy showed normal ejaculations from the left ureter, none from the right. Ureteral catheterization gave a sudden outlet to 30 cc. of purulent urine from the right kidney (retention in the pelvis). The urea concentration was low and many cocci were present. The left kidney urine was normal.

Lavages of the right kidney pelvis with 2 percent argyrol were begun and continued weekly with a marked improvement in the general condition and a drop in temperature. Three months later a normal child was delivered. Ureteral catheterization done three weeks later showed that the right kidney was still secreting a relatively small amount of purulent urine with poor concentration.

Eight months later the patient returned with a recurrence of pains in her right side. A third ureteral catheterization showed that the right kidney was still far below (about one-quarter) the left in efficiency, but there was no retention and the right kidney urine was free from pus. Nephrectomy was done and an old adherent, shrunken, and cicatrized kidney was found in the right side.

The author concludes that:

- 1). A serious general condition does not contraindicate ureteral catheterization, but rather, demands it in pyelonephritis.
- 2). Catheterization should be periodically repeated whenever there is the slightest rise in temperature. Otherwise complications are invited.

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Journal d'Urologie, July, 1914.

OPERATIONS ON THE KIDNEY IN THE PRESENCE OF BILATERAL RENAL DISEASE. *L. Casper.*

The chief cause of the high mortality in kidney surgery in former years was the fact that cases were operated in which the affection of the second organ contraindicated intervention. The opportunity for studying separately the two kidneys came with the introduction of ureteral catheterization and then there was formulated the rule that one kidney could not be operated on when

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Zeitschrift für Urologie, VIII, 7.



the second was diseased. This statement was very quickly modified to read: one kidney can be removed even when the other is diseased so long as the latter functionates sufficiently to meet the new demands upon it.

In order to determine the relative functional ability of the two kidneys, comparative tests are performed on specimens of urine from the two sides. Normal kidneys give similar figures, the healthy kidney better figures than the diseased organ, the more diseased kidney worse values than the less affected.

As material for this discussion Casper has reviewed the 338 operated cases in which he has employed kidney function tests. These he considers under 3 heads, as follows:

I. Cases of unilateral kidney disease. There were 322 of these, including hydronephrosis, pus kidney, tuberculosis, tumors, stone, nephritis, floating kidney, essential hematuria. Of the total number of operations there were 190 nephrectomies, with 19 deaths in all. The cause of death was given as heart weakness, shock, sepsis, intestinal hemorrhage, intestinal paresis. In not one of the autopsied cases was there found any disease of the kidney found to be normal with the functional tests. The author concludes from these findings that when the investigation of the "second" kidney shows it to be anatomically normal (clear urine free from pus, albumen, and casts) and functionally normal (indigocarmine excretion in 5-8 minutes, with deep blue coloration, sugar excretion after phloridzin injection in 18-25 minutes, change in freezing point corresponding to change in fluid intake), an operation on the "first" kidney can be undertaken in safety as far as the second kidney is concerned. In other words, Casper has never seen a case in which a diseased kidney has exerted a depressing influence on the function of the "second" normal kidney.

II. Bilateral kidney disease with good prognosis regarding the second kidney. This series comprises 8 nephrectomies with one death. The seven cases that survived showed nephritis, pyelonephritis, or tuberculosis of the remaining organ. The case that died was not sufficiently worked up as regards the functional tests. This case thus emphasizes the necessity of 1) repeated examinations, 2) the employment of various different tests in view of the multiplicity of excretory functions carried out by the kidney parenchyma. It will be noted furthermore that several of the nephritis cases got well. This is not an uncommon experience after nephrectomy. Which types of nephritis will improve and which will get worse? This is hard to say. In general, curable toxic nephritides do well whereas progressive interstitial nephritides may show a diminished or failing excretion. This goes hand in hand with the observation that phloridzin excretion is hardly disturbed in parenchymatous nephritis whereas contracted kidneys show very little excretion. Since toxic



nephritides get well we can assume that they are of parenchymatous nature. Severe parenchymatous nephritis, however, is a contradiction to operation.

III. Bilateral kidney disease with poor prognosis but with operation despite the result of kidney function tests. There were 9 cases in all, including 7 nephrectomies, and 2 nephrotomies, with 8 deaths. In all the fatal cases the deaths were typical of renal failure. The ninth case died about 2 years later with chronic uremia. The author feels justified in concluding that with anatomical disease and functional disability of the second kidney, extirpation of the first is a grave risk. Furthermore he has seen no evidence to support the view that the second kidney has any so-called reserve power which comes to its aid when the first is removed. He believes that this idea has no foundation in fact and quotes Brongersma, Barth, Zuckerkandl, and Wildbolz in his support.

A kidney is to be regarded as functionally insufficient, in the sense that a uremia may break out after nephrectomy, when no sugar appears in the urine after phloridzin injection, when the discoloration appears late and only green (not blue) after indigo-carmin, and when there is marked diminution of kidney flexibility (failure of freezing point of urine to vary with fluid intake and output).

There is one more important point with special bearing on the phloridzin test. It has been claimed that healthy kidneys may not excrete sugar and that such cases have been operated on with recoveries. Casper replies that he has shown in thousands of cases that every healthy kidney excretes sugar after phloridzin. Furthermore, several hundred normal cases examined show the typical excretion. A careful study of the subject convinces him that such results as just mentioned may be due to any of the following causes: 1) Obstruction to outflow whether in kidney or ureter. 2) Use of a poor phloridzin preparation, 3) Failure to inject solution while warm and thus prevent precipitation, 4) Injection of too small a dose (the normal is 0.01 gm.), 5) The existence of polyuria whether nervous or of some other origin. Morphine should be given in such cases, 6) Performance of the test on a fasting stomach. A meal of meat, egg, or bread should be taken 1 to 3 hours before the examination, 7) The presence of albumen in the urine. The Nylander test is negative under such circumstances with a sugar excretion of less than 0.3 percent. The albumen should be precipitated out, 8) A contracted kidney may run an asymptomatic course. In such a case the kidney would excrete no sugar, but the patient should not be regarded as well, 9) Pressure atrophy of the kidney parenchyma as in prostatic hypertrophy may be associated with failure to excrete sugar. Such cases also may run an asymptomatic course.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

VOL. IX.

APRIL, 1915.

No. 4.

## SOME EXTRA-GENITAL SYPHILITIC INFECTIONS.

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**E**XTRA-GENITAL infections of syphilis are sufficiently trite and commonplace to merit no particular clinical or scientific interest. Bulkley, some years ago, collated from various American sources, many hundred instances, in an extensive and painstaking investigation of the subject, and imparted some interesting facts of more or less practical importance.

The writer wishes to touch upon only a few cases of extra-genital infection specially selected from a somewhat large number in his personal experience, because of their special practical importance and somewhat unusual clinical interest.

Extra-genital infection of syphilis is a matter that should deeply concern not only the practitioner of medicine, but also the laity at large. It is self-evident and axiomatic that the more prevalent and widespread syphilis is disseminated in a community, the more common is the extra-genital form of infection. In fact, in certain countries, the Turkish provinces of Asia Minor for example, where syphilis is almost of pandemic character, extra-genital infection is exceedingly common, and genital infection, strange to say, exceedingly infrequent. In the light of these facts, it is incumbent upon every physician, and every member of the laity, to exercise every effort to not only minimize in every community, by proper regulatory and restrictive measures, the prevalence of syphilis, but to block, as far as possible, the sources of extra-genital infection. In all communities where syph-



Figure I



Figure II.

ilis is widespread and prevalent, extra-genital infection is a grave menace to every man, woman, and child, and the physician, because of the peculiarly exposed character of his vocation, bears the brunt of the danger. Extra-genital infections are exceedingly more common in physicians than in any other class of individuals.

#### SOME EXAMPLES OF COMMON SOURCES.

This bright, handsome child of ten months, (Fig. 1.), has a chancre of the lower lip, incurred from the fond kiss of an overindulgent father, who deemed it his privilege to seek sexual



Figure III.

gratification from improper sources, during the prohibitory child-birth period, with the result that he incurred a genital infection of syphilis. Strange to say, this prerogative to seek illicit sexual gratification during the latter stages of pregnancy, and periods of pelvic ailments, is boldly claimed by many otherwise exemplary husbands, with the result that they constitute a very large proportion of venereally infected individuals, and become the source of genital and extra-genital syphilis insontium. It is needless to state that not only this bright, innocent child must bear the lifelong blight of the erring father, but the wife and other children at the time born and unborn. It is not uncommon to note that syphilis, when brought into a family in fresh, active form dis-

seminates through the entire family, unless painstaking precautions are carefully and promptly taken. It does not always take extra-genital or even genital incipient form. The chancre is not always in evidence. It may remain concealed, what the French has termed "syphilis emblee," which in the light of our present knowledge, indicates the fact that the spirochaete has gained hidden entrance, possibly through the gastro-intestinal tract.



Figure IV.

#### DANGERS OF "BARBER SURGERY."

Case II (Fig. 2). An infection at the hands of a barber. This young man came to my attention when the accompanying photograph was taken, with the statement that he had been troubled for several years with "wild hairs," which his barber had been successfully removing with his needle and forceps, from time to time. In fact, the sore on his face was caused by the "wild hairs," which the barber was still treating with the same forceps,



up to the hour of his presentation. It is needless to state that this culpable barber infected the patient with contaminated forceps, and how many others he infected with the same unsterilized instrument used on this patient, is beyond conjecture. These tonsorial infections are not infrequent, and permit but one deduction: namely, a barber should give only tonsorial attention, i. e., shave and cut hair. All other attention of a surgical or medical character should be strictly tabooed.



Figure V.

Case III (Fig. 3), is a manieurist infection. Infection at the hands of manieurists is no infrequent occurrence, and is attributable to the same general causes, which pave the way to similar infections at the hands of barbers, self-styled "dermatologists," and other individuals, who essay surgical attention of minor character, and who are careless in their asepsis and are deficient in knowledge, experience and special training with what they are dealing.

Case IV (Fig. 4), is that of a young boy, of 12 years, who, during the summer months in 1900, incurred an extra-genital chancre of the upper lip, while working in one of our large shoe factories, at a time when child-labor was still permitted, in order to help sustain a large and indigent family. The source of infection was in all probability, a common drinking cup, an old-time offender, which present-day regulation has practically eliminated. Present-day regulation, however, has not effected its entire elimination or at least has not removed such kindred sources, as com-



Figure VI.

mon use of pipes, mouth harps, plugs of tobacco, indiscriminate kissing, etc.; what reclamation has not and cannot effect in this direction, should be essayed by education.

Case V (Fig. 5), is an extra-genital chancre of the abdomen, incurred in an unsuspected venereal manner, just as so many mouth and lip chancres are similarly contracted. The patient, a well-to-do, highly respected and exemplary married citizen of Cincinnati, was induced against his personal volition and good judgment, to accompany some of his convivial friends after a banquet one evening, to a house of prostitution. His desire to

remain downstairs in the parlor was overruled by one of his friends, who tossed him some condoms and who assured him that no ill could possibly come if he used the covers. Illicit intercourse with one of the inmates, in spite of the protection of the condom, resulted in an infection at a point on the abdomen, beyond the reach of the illusive cover. Physicians, as well as laymen, are often deceived by this illusory form of protection, and a strong



Figure VII.

object lesson can be correctly drawn from the above experience. Antiseptics are a highly illusory form of venereal prophylaxis and have found a very unwholesome form of general credence. In my opinion, their irritating properties produce tiny abrasions and superficial excoriations, which merely "pave" instead of "block" the way to venereal infection.

#### INFECTION FROM MONEY.

Case VI (Fig. 6), is an extra-genital infection on the lip of a bank clerk, who attributes his infection to the handling of contaminated currency. In spite of his exemplary habits, personal care, and intelligent and careful living, such an inference must

remain purely conjectural, as there are other sources, of unknown, innocent and equally likely character. But the case typifies one point, namely, that this class of infection is relatively more common, the more widespread and prevalent is the disease, from which it takes its source.

Case VII (Fig. 7), is that of a physician, who presented himself in February, 1911, for an infection around the nails of the right index and middle fingers, which he believed to be a paronychia of simple character. When the writer made the clinical diagnosis of double initial chancre, and even after the latter was amply confirmed by examination for the spirochaetae, the patient could not reconcile himself to the diagnosis. His intimate acquaintanceship with his clientele and the restricted conditions under which he practiced, in his small country town, made him believe that an exposure to such an infection was out of the question. He was instructed to return and consult his obstetrical and gynecological records of late December and early January, and report his findings. On his return visit, he stated that late in December he delivered a patient, in a family whose moral integrity and status he never for a moment questioned. This patient, upon subsequent examination, presented syphilis in most florid and active form. This physician is a prototype of numerous extra-genital infections in practitioners of medicine, which come to the experience of every syphilographer. As a rule, the chancre is situated upon the index or middle finger, or both, of the examining right or left hand. Obstetricians, gynecologists, laryngologists, dentists, and midwives, more seldom nurses, form a particularly vulnerable class. The syphilographer, insofar as the writer has been able to judge, is seldom infected. Those infected invariably express complete ignorance and astonishment regarding the nature of the infection and usually state that they can recall no case within the given period of exposure, which in their judgment could have transmitted the infection. Physicians should bear distinctly in mind that the mildest case and the most trivial lesion of unrecognized syphilis is a greater menace and a source of greater danger to personal extra-genital infection than the most virulent type with active and florid lesions, properly recognized and intuitively safeguarded.

## A FURTHER CLINICAL STUDY OF THE CONTRADICTORY FINDINGS IN THE WASSERMANN TEST.

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THE purpose of this paper is to call attention again to a phase of the Wassermann reaction, which seems to have escaped the widespread consideration which its importance deserves. The writer refers to the fact that several serologists working simultaneously with the same blood serum, may and often do obtain contradictory results.

In a previous paper,<sup>1</sup> in a report covering 37 cases, the writer reported the following findings. The blood was taken simultaneously in two test-tubes, with these results: Total agreement of findings, 26 cases (70 per cent.); slight disagreement, 6 cases (16 per cent.); absolute contradictions, 5 cases (14 per cent.). It was therefore apparent that there is a liability of variation of 14 to 16 per cent., if more than one serologist reports on a serum.

In the present study, an attempt has been made to consider this phase of the Wassermann reaction in a larger number of cases, solely from the standpoint of the clinician, who is often called upon to make a diagnosis of syphilis or determine the therapeutic progress of his patients by means of this reaction. Consequently, it is considered immaterial as to which of the serologists is in accord with the clinical data; the important question to determine is, Do the serologists agree in their findings, and are their findings trustworthy?

Serologists themselves find this a very difficult question to answer satisfactorily. It is agreed by all serologists that, from a purely theoretical standpoint, disagreement of results ought to be impossible. Certainly luetic serum ought always to give a positive reaction, and non-luetic serum ought always to give a negative reaction. This is elementary; but the fact remains that in actual practice such is not the case. In the hands of one serologist, a serum gives a strongly positive reaction, while another serologist, equally competent and reliable, may obtain a negative reaction with the same serum taken from the patient at the same moment. Which of the two is correct, no one can tell—



least of all the physician who has called these serologists into the case to assist him in making his diagnosis in a doubtful case. In the circumstances, the clinician is after all thrown upon the clinical data of the case for his final diagnosis. When serologists disagree in this wise, the clinician is forced to make his diagnosis on the clinical findings, as though there were no such laboratory aid as the Wassermann reaction.

It is undeniable that the Wassermann reaction is an invaluable aid in the diagnosis and treatment of lues. It is equally undeniable that physicians have gone to extremes in their laudation of this test, with the result that they are leaning more and more upon the laboratory evidence than upon the clinical features of their cases, upon which they were wont to depend in the pre-Wassermann period. The diagnosis of syphilis is being made to-day in the laboratory in many cases, disregarding in a great measure the clinical data presented by the patient. For his part, the writer would have no hesitancy in accepting a laboratory diagnosis of lues in a doubtful case, if he could feel sure that the serologist was absolutely correct in his findings; but when it can be demonstrated that such laboratory diagnoses are far from correct, that they often contradict each other, and that there is no way of determining which of the results is the correct one, he confesses to an increasing lack of faith in the laboratory findings. As a result of the investigations which he has been making for the past three years, he feels justified in saying that our diagnosis of lues must still be made primarily on our clinical data, assisted as far as possible by the laboratory findings, giving only such weight to the latter as may appear to be proper, each case to be considered on its own merits.

The writer's personal experience in the study of these contradictions has been that in the presence of active lues, the Wassermann reaction is apt to be uniform in the hands of several serologists; in latent lues, however, or in cases which have been under treatment for some time, the contradictions are most frequently found. And it is in these obscure cases, cases without definite clinical data, that the Wassermann reaction ought to be most useful as a diagnostic factor. It is, therefore, of supreme importance to guard against the possibility of permitting faulty serologic data furnished by laboratory workers to influence us in our diagnosis in these obscure and doubtful cases. We should

not for one moment forget that the laboratory report on a given serum in such a doubtful or obscure case may be entirely at variance with the clinical history of the case; nor should we forget that there is a strong possibility that another serologist might give us a serologic opinion of a totally different character.

The views expressed in this paper are based on a careful study of 134 private cases. The conditions under which this study was made adhere as closely as possible to the conditions under which the average practitioner obtains his Wassermann tests. These conditions assume that the practitioner draws the blood in his office, and then sends the tube as quickly as is practicable to his favorite laboratory where examination is made and a report sent back to the physician in a few days. This method has been followed strictly, for in no other manner could this study be properly instituted.

In the beginning of this study, the serum was sent to two laboratories simultaneously for examination. Forty-nine cases were thus tested. Since then, however, in 85 cases, the serum has been sent to three laboratories, each working independently of the others. The result will be tabulated and discussed below.

*Method of Examination.*—The blood was drawn through a sterile needle into three sterile test-tubes. Within a few hours, the tubes were delivered to the laboratories; at no time was a tube ever permitted to remain undelivered for more than six or seven hours, and during that period it was kept in an ice-chest.

*The Serologists.*—In order to understand properly the character of the work done in connection with these tests, the following data must be of interest:—

*Serologist A.*—In this laboratory nearly 20,000 tests were made in the year 1913, and approximately 40,000 tests were made during the year 1914. The work is done by specially trained laboratory assistants, who are not permitted to do independent work until they have worked in the laboratory at least six months. Titrations are made every day, and special care is taken to secure properly standardized reagents.

In this laboratory, the Wassermann technique is used, with two exceptions—(1) they use one-tenth the bulk of the original Wassermann test, making the total bulk of the test 0.5 c.cm (this does not change the relative proportions in any way); (2) they bind complement for a period of four hours at ice-box

temperature, instead of the usual one hour in incubator at 37° C. By this method, the serologist states that he has been enabled to obtain at least 10 per cent. more positive reactions in latent lues than by the original method. He also states that the additional 10 per cent. of positive reactions have been corroborated by the clinical histories, etc.

This laboratory furnishes the test-tubes for the collection of the serum. Having observed that the glass of the ordinary test-tube is alkaline in reaction, and that this alkalinity often has an anti-complementary effect on the serum, the test-tubes furnished are all boiled in 1 per cent. HCl solution, thus becoming neutral in reaction.

Serum sent to this laboratory is usually prepared on the day of arrival, and tested the following day, so that there is never more than twenty-four to forty-eight hours delay in examining the specimen. In the meantime the specimen is kept on ice.

*Serologist B.*—A well-known serologist, the author of a text-book on serology, who informs the writer that he has personally performed 50,000 Wassermann tests, of which 7,500 were spinal fluid. The technique he employs is that of Wassermann, as given by Citron in the *Handbuch fuer Immunitaetsforschung*, except that he uses 4 units of amboceptor. This serologist believes that a positive Wassermann reaction is impossible in a patient who is clinically negative. When confronted, however, with the obvious fact that such serologic reports are very common, he declares that a positive reaction in a clinically negative case indicates a faulty technique, and consequently a wrong result. He aims to discourage, so to speak, the 'slightly positive,' reaction. He reports 'strongly positive,' or 'negative.' There are no intermediate degrees in his work, unless especially requested by the clinician.

*Serologist C.*—A laboratory worker who has performed almost 8,500 tests, 2,500 of which were done in the year 1914. He employs the method of Wassermann and Citron, as being the most dependable and reliable. He is a careful and conscientious worker.

It must, therefore, be conceded that the three serologists who have been selected for this study have all had extensive experience; they follow Wassermann closely, and their results must be accepted as reflecting the general average of the work that

is being done by competent serologists. Let us, therefore, compare the results obtained in their work with the Wassermann test.

In 85 cases, the serum was examined by these three serologists working independently. Of the 85 cases, the serologists agreed in 35 cases; they differed slightly in 16 cases, and absolute contradictions were obtained in 33 cases. By contradictions we mean those cases in which one serologist reports negative and another reports positive; where two report positive in varying degree, we have considered them as differences, and not as contradictions. The following table indicates the character and extent of these contradictions:

SHOWING DIVERSITY OF WASSERMANN REPORTS OF SERA EXAMINED SIMULTANEOUSLY BY THREE SEROLOGISTS.

Case Number	Serologist A	Serologist B	Serologist C
1 .....	4 plus	—	4 plus
2 .....	4 plus	—	4 plus
3 .....	3 plus	—	1 plus
4 (after provocative injection of neosalvarsan) ..	—	4 plus	—
5 (one month later, same patient) ..	—	4 plus	—
6 .....	2 plus	—	—
7 .....	1 plus	—	1 plus
8 .....	4 plus	—	plus minus
9 .....	4 plus	—	2 plus
10 .....	—	4 plus	1 plus
11 .....	3 plus	—	4 plus
12 .....	4 plus	—	4 plus
13 .....	4 plus	—	—
14 .....	—	4 plus	—
15 .....	—	—	1 plus
16 .....	2 plus	4 plus	—
17 .....	4 plus	—	3 plus
18 .....	4 plus	—	3 plus
19 .....	—	—	1 plus
20 .....	—	—	2 plus
21 .....	4 plus	—	—
22 .....	—	4 plus	—
23 .....	4 plus	—	4 plus
24 .....	4 plus	—	3 plus
25 .....	1 plus	—	—
26 .....	4 plus	4 plus	—
27 .....	3 plus	—	—
28 .....	4 plus	4 plus	—
29 .....	—	—	2 plus
30 .....	2 plus	—	—
31 .....	3 plus	—	—
32 .....	4 plus	4 plus	—
33 .....	2 plus	—	—

A review of the foregoing table will show the following interesting facts:—

In these 33 cases in which absolute contradictions were found,

- (a) Serologist A obtained 24 positives (73 per cent.) and 9 negatives (27 per cent.),  
 Serologist B obtained 9 positives (27 per cent.) and 24 negatives (73 per cent.),  
 Serologist C obtained 16 positives (50 per cent.) and 16 negatives (50 per cent.) and one plus minus.
- (b) Serologist A obtained 9 positives in sera declared negative by B and C,  
 Serologist B obtained 4 positives in sera declared negative by A and C,  
 Serologist C obtained 4 positives in sera declared negative by A and B.
- (c) Serologist B obtained 12 negatives in sera declared positive by A and C,  
 Serologist C obtained 4 negatives in sera declared positive by A and B,  
 Serologist A did not obtain a single negative in serum declared positive by his colleagues.

What inference may we draw from these data?

- (a) Serologist A found 73 per cent. positives, 27 per cent. negatives,  
 Serologist B found 27 per cent. positives, 73 per cent. negatives,  
 Serologist C found 50 per cent. positives, 50 per cent. negatives

in the same serum. We are therefore forced to believe that Serologist A sought to 'bring out' the positives, that Serologist B sought to attain the exact opposite, and that Serologist C occupied the 'middle of the road.'

(b) Serologist A obtained 9 positives in sera declared negative by his colleagues, whereas Serologist B obtained but 4 and Serologist C also 4. This would confirm the tendency of Serologist A to 'bring out' his positives to an extraordinary degree.

(c) On the other hand, the tendency of Serologist B to 'bring out' the negatives is strongly emphasized by the fact that he obtained 12 negatives in sera declared by his colleagues to be positive; and here again it is to be noted that Serologist A did not obtain a single negative in serum declared positive by the other two. Here we see the personal equation as a strong factor in the



Wassermann test. That is to say, a serologist may, if he chooses, obtain a preponderance of positives or of negatives in his work.

Taking up the 29 cases which were examined by two serologists, we find that they agreed in 32 cases (65 per cent.); differences were noted in 11 cases (23 per cent.), and absolute contradictions occurred in 6 cases (12 per cent.).

Comparing the two series of cases, we find the following interesting figures:—

Three serologists examine 85 cases:	Two serologists examine 49 cases:
Agreed in 42 per cent. of cases,	Agreed in 65 per cent. of cases,
Differed in 19 per cent. of cases,	Differed in 23 per cent.,
Contradicted in 39 per cent.	Contradicted in 12 per cent.

Before concluding these data, it has seemed pertinent to give the serologic history of 3 of the writer's patients who have patiently and conscientiously presented themselves from time to time for the serologic tests. The first patient, M. F., has had 10 tests made, with the following interesting results:—

Date of Test	Serologist A	Serologist B	Serologist C
November 7, 1912.....	4 plus	No test made	—
January 7, 1913.....	—	—	—
February 13, 1913.....	2 plus	—	4 plus
April 1, 1913.....	4 plus	—	plus minus
July 9, 1913.....	4 plus	No test made	2 plus
August 21, 1913.....	plus minus	No test made	2 plus
October 4, 1913.....	1 plus	—	1 plus
December 18, 1913.....	2 plus	—	—
February 6, 1914.....	2 plus	—	—
March 16, 1914.....	3 plus	—	1 plus

These data illustrate the futility of depending implicitly on the laboratory reports, considered as a diagnostic aid or as a therapeutic guide. During the period of sixteen months in which this patient was under observation (part of the time under treatment), ten tests were made, in six of which three serologists participated. In but a single instance did all three workers agree (all negative). Serologist A obtained a positive reaction 8 times, a negative once and a plus minus once; Serologist B obtained a negative reaction in the 7 tests in which he participated; while Serologist C obtained 5 positives, 4 negatives and one plus minus. Is it not fair to ask, Which of these serologists was correct in his findings, and why did not all three get the same results? Surely a serum cannot be positive and negative at the same moment!

The second patient, G. M., had five tests made, as follows:—

Date of Test	Serologist A	Serologist B	Serologist C
February 24, 1913.....	—	—	—
September 27, 1913.....	—	—	—
February 3, 1914.....	—	—	—
Provocative injection of neosalvarsan administered February 5, 1914.			
February 23, 1914.....	—	4 plus	—
March 20, 1914.....	—	4 plus	—

In this series of tests it will be observed that the patient was reported serologically negative three times by all three serologists. A provocative injection of neosalvarsan, however, resulted in two successive 4 plus reports by Serologist B, whereas both A and C reported negative as before the injection. How are these contradictions to be explained?

The third patient, R. E., had seven tests made, with these results:—

Date of Test	Serologist A	Serologist B	Serologist C
January 31, 1914.....	3 plus	—	4 plus
April 4, 1914.....	4 plus	4 plus	3 plus
April 24, 1914.....	3 plus	4 plus	3 plus
May 21, 1914.....	4 plus	—	3 plus
June 23, 1914.....	4 plus	4 plus	2 plus
September 4, 1914.....	4 plus	4 plus	4 plus
October 9, 1914.....	4 plus	4 plus	4 plus

This patient, therefore, had seven tests, and of this number there were two flat contradictions (tests Nos. 1 and 4). He was under treatment with salvarsan, mercury and iodides during most of this period, and though he was clinically well, his treatment had no appreciable effect on the Wassermann reaction, except perhaps to make it more strongly positive as the treatment was increased in intensity.

In reporting an instance of faulty positive Wassermann reaction in a young woman without clinical history or evidence of lues, Pusey<sup>2</sup> says: "The greatest fault is carelessness in technique. Another source of error is old blood. Blood two days old, even when kept in an ice-box, is unreliable for the test; and much more so, if it has been kept at car temperature whilst in transit to a distant laboratory. Finally, some careful and conscientious but over-zealous workers are drawing their test so fine in order to increase its sensitiveness that their readings sometimes become unreliable.

"This criticism is not directed against the Wassermann as a test. The Wassermann is all right, but it should be appreciated that it is open to error in manipulation. It is not final and unimpeachable evidence, and in improbable cases, like the one mentioned, a positive reaction should not be accepted unless one can be perfectly sure of the reliability of the process by which it has been obtained. The tendency to accept the result of a test as infallible is the old story of allowing too much weight to laboratory findings—as though they were above the common human frailty of error. The Wassermann reaction is but one fact in the diagnosis

of syphilis. It should be confirmed by other diagnostic evidence. In the very rare absence of this, it is not too much caution to have two independent tests to check each other."

Within the past year, the writer encountered a striking case somewhat similar to that reported by Pusey. The patient was a young woman, a nurse in a large hospital in the Panama Canal Zone. She was perfectly well. One day in a spirit of fun, she permitted one of the house staff to draw some of her blood for a Wassermann test. The report came back several weeks later, '4 plus.' Thoroughly frightened, she sought advice from the physician in charge, and he acting on the laboratory report and disregarding her perfect health and negative clinical history, at once advised strong antisyphilitic treatment. This was administered for several months. At that time, having been salivated and rendered ill by the enormous amounts of mercury she was taking, she consulted the writer about her case. All medication was ordered stopped for three months, and thorough elimination of the drug was resorted to. After three months she presented herself for observation. She was much improved physically, but suffered from severe mental depression as a result of the thought that she might be syphilitic, as her physician thought. The writer drew blood in three sterile tubes, and three independent serologists reported negative unanimously. A month later, three serologists again rendered a unanimous negative report. The writer is convinced that this woman, with a negative clinical history and in absolutely perfect health, suffered a great injustice when she was declared syphilitic on the strength of a laboratory report. Such a diagnosis was absolutely unjustifiable, to use a mild term. The clinician has no right, in any circumstances, to make a diagnosis of lues simply because a laboratory reports a positive Wassermann reaction.

Not only is the serologist liable to err, but the clerical conditions under which the report is written may also be the source of error. In the writer's experience, he has encountered an instance in which a serum was examined in a large hospital in this city. The serologist is recognized as a competent and careful worker. The report sent down from his laboratory was positive. The case appearing to be clinically and historically negative, the writer mentioned the apparent contradiction to the clerk in charge, and he told the writer with some sign of surprise that he had made an error in writing out the report. The report should have read 'negative,' and to confirm his statement he showed the writer the

entry 'negative,' in the laboratory record book. Now, if it is so easy for a clerk in a large hospital to change a 'negative' into a 'positive,' simply through a clerical error, it naturally follows that such an error is likely to occur in any laboratory at any time. The possibility of error is a strong factor in this work, and this feature must never be lost sight of in accepting laboratory reports, particularly in doubtful cases.

From the serologists themselves very little encouragement can be obtained. All are agreed that the present status of the Wassermann test is unsatisfactory owing to the fact that there is no uniformity or standard in the reagents employed or in the technique. It seems to be the unanimous opinion of the experts whom the writer has consulted, that these unsatisfactory conditions will obtain until some system has been adopted whereby all reagents used will have been standardized and the technique perfected so that all serologists shall use the same methods. 'Faulty technique' is undoubtedly the cause, but there is a wide divergence of opinion as to what constitutes faulty technique; and the writer has not yet met the serologist who is willing to admit that *his* technique is anything but perfect.

As a matter of interest, the writer has obtained the views of a number of this city's best-known serologists, in the hope of getting at the bottom of this intolerable situation. With their permission, they may be quoted as follows:—

Dr. F. E. Sondern: "Assuming that the different serologists have proper education and experience, and surround their work with proper safeguards, I see no reason why results should vary materially. While it may be a strange coincidence, I know several workers whose results with the same serum never differ except perhaps to a slight degree in doubtful or weakly positive reactions, and they do not use the same antigens. There is certainly no excuse for different results by one worker on the same serum."

Dr. T. W. Hastings: "We have frequently observed that the results of Wassermann tests from different laboratories are contradictory, and in investigating the matter have found that it is mainly due to the fact that the laboratories at large have not the facilities, nor do they take the pains to properly standardize every few days the solutions, as antigens, hemolytic amboceptors and complements, which are necessary for perfect tests. These variations can be avoided only by insisting that those who make the tests shall be thoroughly trained in the immunizing of rabbits for

the hemolytic amboceptor, in preparing and testing out antigens, and in proper testing of complement. Most of the instances which have come to our attention have resulted from the fact that the man who made the test mixed together four solutions in a test-tube, not realizing that this is one part of the work that can be done by a 'Diener' or a well-trained laboratory janitor."

Dr. D. M. Kaplan: "The reasons for these discrepancies are

1. Insufficient criticism in reading end-results.
2. Biased (subconscious) rendition of results from a previous knowledge.
3. Insufficient care in standardization.
4. Too many positive results from using only two units of amboceptor.
5. Using modifications instead of the original reaction."

Dr. J. J. Hertz: "The sole cause of the variations lies in the different antigens employed. Some serologists titrate their antigen for one-half or a full hour, and then do not take readings for four or five hours or even the entire following day. I believe, in this way, weakly positive sera are interpreted as negative. Then again, in titrating the antigen, the difference between the smallest amount of antigen necessary to make a positive serum positive, and the amount which will make a negative serum positive, is so small that it will deteriorate in a few days and give a wrong result. I believe that all reagents should be titrated every time the tests are done. In order to avoid these discrepancies, I believe that all the serologists should get together and decide upon the best kind of antigen to be used, and have a central body prepare the same. Personally, I think that the Noguchi acetone insoluble lipid antigen or the original Wassermann antigen is the best."

Dr. M. F. Schlesinger: "Over-confidence and resulting carelessness may prompt the technician to do careless work. All reagents must be titrated against known sera before beginning the test. Feeding of the guinea-pig may change the complementary value of the serum, and it should be titrated each and every time. Dirty tubes and pipettes inhibit hemolysis. One drop of water will hemolyze the blood-cells. Working with an amboceptor that gives high value, say 1:2000, the smallest excess will make a positive reaction turn negative. The most common mistake is to take one pipette and use it throughout the reaction for as many tests as there may be. A different pipette should be used for each serum. I have intentionally mixed two or more negative sera and



obtained because of this a positive reaction. The saline solution used for the test should be freshly prepared and from distilled water. Another mistake consists in making too concentrated an emulsion of sheep cells. A negative reaction will thus be made positive."

A review of the literature indicates that not much attention has been given to this subject. In the German literature the writer has found these references: Freudenberg<sup>7</sup> reported 2 cases of contradictory results in the same serum. In the discussion which followed, Muehsam stated that he believed the faults are due to the different ways in which the reagents are prepared. Michaelis believed that the determination of a positive or a negative reaction was largely a matter of individual opinion. Lesser thought that those cases in which contradictory results appear, must be considered as luetic. Blaschko believed that only strongly positive reactions should be considered as of value. Wassermann was of the opinion that none but his own original method was correct; in 1,000 cases examined by him there was no error, and the same was true of cases studied in Ehrlich's Institute. He also recommended that antigen be prepared and distributed at some central station. Wossidlo spoke of 20 cases which were studied in seven different serologic institutes in Berlin. Of these, 7 agreed and 13 disagreed. In 6 nonluetic cases, 4 agreed and 2 disagreed; in 11 luetic cases, only 3 reports agreed. He urged the use of three different extracts, and methods that are not too fine and sensitive. At least two serologists should have the same result; otherwise he disregards it as incorrect. The reaction should be considered as positive the first time, only when hemolysis is complete or nearly so. Sera obtained from persons suffering from fever should not be examined for the reaction.

Saalfeld<sup>8</sup> also urged that the necessary reagents required for the Wassermann reaction should be prepared and distributed at a central station.

Wesener<sup>9</sup> studied 249 cases in various institutions; he obtained disagreement in results in 18 per cent., and absolute contradiction in 9.6 per cent. of cases. Meirowsky<sup>10</sup> discussed this phenomenon under the title "Sera Paradoxa." The subject was also considered by Stern, Rasp, Sonntag, Ritz, Sachs and others.

Gratz<sup>7</sup> believes that the term 'reaktion paradoxa' is more nearly correct than 'sera paradoxa,' indicating his belief in the fallibility of the reaction rather than any inherent quality of

serum itself. Altmann<sup>8</sup> discussed the influence of the temperature upon the results of the Wassermann test.

Speaking of contradictory findings in the Wassermann test, Gottheil<sup>9</sup> says: "One examiner may use only the older and rougher methods; another may employ the very latest antigens; while a third may use a special method that is all his own. So that now we get reports like this: Negative to the ordinary antigens, weakly positive to highly sensitized or to cholesterin antigens. A patient with such a report would get a simple negative one from an examiner using only routine methods, or from one of the many drug-stores and other uncontrolled places where the test is so frequently made. Finally, each examiner has his own method of recording results; and I have frequently been unable to make any satisfactory comparison between reports made by different persons on the same patient."

The possibility and danger of imposing a conviction of syphilis on an innocent person by a faulty laboratory diagnosis is well stated by Thomas and Ivy<sup>10</sup> in these words: "Considerable harm is being done at the present time by the use of unreliable non-specific or artificial extracts, in two ways: (1) The marked discrepancies between the results of the Wassermann test and the clinical findings in many cases are causing sceptical clinicians to lose confidence in the value of the reaction, and thus they are being deprived of an important diagnostic and therapeutic aid; (2) a great many unfortunate people are being treated for syphilis who have not and who never had syphilis, as the result of weakly positive and doubtful reports by workers using these antigens. It seems to the writers that there should be some means of cooperation of Wassermann workers for standardization and uniformity of methods, to be adhered to as long as they are justified by clinical results, with the acceptance from time to time of such advances in technique as may be approved. In this way only will the serological syphilis reaction retain the confidence that its intrinsic value permits."

In a carefully prepared article, Stone<sup>11</sup> discusses the sources of error in the Wassermann technique. His tabulation, giving forty-three independent possible sources of error, shows clearly that present methods do not permit of uniform reliability. He believes that the tendency is to err on the side of positive results. In other words, "many workers apparently labor under the delusion that if an individual applies for a complement fixation test, that

person must have syphilis, and every effort is directed toward obtaining serological proof." This tendency is well shown in the reports furnished by Laboratory A, the head of which, by modifying the original Wassermann technique slightly, has been enabled to obtain at least 10 per cent. more positive reactions in latent (?) lues than by the original method (*vide supra*).

In view of these observations and opinions, combined with the data which the writer has gathered, what position shall we take in this matter? What shall we tell our patients when they come to us for definite information?

The writer believes that in all cases our patients should be informed of the liability of human error and fallibility of the Wassermann test; they should be made acquainted with the fact that a single laboratory report is not to be accepted as conclusive; that such a report is, after all, merely the opinion of the man who made the test, based on the employment of certain reagents made and chosen by himself; that another serologist, using the same or other reagents, might obtain a totally different reaction, and that we are not in a position to say which of the two is correct. The best thing we can do to conserve the interests of our patient is to submit the serum to at least three serologists simultaneously; these serologists to be chosen for their known probity, learning and conscientious work, in the same manner as we should select a consultant in any other field of medicine. In view of what we have seen, it is reasonable to expect that these independent serologists will differ in their findings in about 20 to 30 per cent. of our cases. Consequently we must prepare our patients for this contingency.

When independent serologists agree, surely we have a right to accept their reports as correct; upon such unanimous findings we have the right to base our diagnosis and determine our therapeutics. But when they disagree, we are thrown upon our own judgment.

#### CONCLUSIONS.

1. Three serologists working independently, tested sera simultaneously in 85 cases; they agreed in 42 per cent., differed more or less in 19 per cent., and there were gross contradictions in 39 per cent. of the cases. Two serologists, working independently and simultaneously, examined sera in 49 cases; they agreed in 65 per cent., differed in 23 per cent., and there were gross

contradictions in 12 per cent. of the cases.

2. The Wassermann reaction is dependent for its result on the skill and knowledge of the serologist.

3. The results of the test depend in great measure on the absolutely perfect standardization of the reagents used; these are subject to variation in the hands of different serologists.

4. As a result of these differences, diversity in results is not infrequent.

5. It is a gross error to accept the findings of one serologist as conclusive; his work should be checked up by one or more equally competent workers.

6. If two or more competent serologists report on a given serum, the majority opinion may be accepted as fairly conclusive; frequent reexaminations are always of advantage to the patient.

7. All mention of results of the Wassermann test, in the literature or elsewhere, should be accompanied by the name of the serologist who made the test, in order that the measure of accuracy and skill employed may be estimated.

8. The serologist should be selected with the same care and caution as is exercised in the selection of a consultant or expert in any other branch of medical science.

9. *Remedies Proposed.*—Reagents should be prepared and distributed at a central station (Board of Health, for example); all workers should adopt a uniform, recognized method, which has been found trustworthy and reliable; meanwhile, Wassermann reports should be accompanied by the name of the individual worker who made the test, together with a brief statement showing the method, apparatus and reagents used. In this way only can we determine the degree of confidence to place in the reports handed to us by serologists.

#### BIBLIOGRAPHY.

<sup>1</sup> Wolbarst (*N. Y. Med. Jour.*, February 19th, 1913). <sup>2</sup> Pusey (*Jour. Am. Med. Assoc.*, November 22nd, 1913). <sup>3</sup> *Deut. med. Woch.*, No. 26, 1910. <sup>4</sup> *Deut. med. Woch.*, No. 44, 1910. <sup>5</sup> *Muench. med. Woch.*, No. 33, 1914. <sup>6</sup> *Berl. klin. Woch.*, No. 25, 1913. <sup>7</sup> *Deut. med. Woch.*, No. 27, 1912. <sup>8</sup> *Archiv für Dermat. und Syph.*, No. 116, p. 871, 1913. <sup>9</sup> Gottheil (*Progressive Medicine*, p. 161, September 1st, 1914). <sup>10</sup> Thomas and Ivy (*Amer. Jour. Med. Sci.*, p. 61, July, 1914). <sup>11</sup> Stone (*N. Y. Med. Jour.*, June 20th, 1914).

## TRAUMATIC NEPHRITIDES.

By A. POUSSON.

THE development of an *acute* traumatic nephritis following a shock is incontestable. Even a simple manual exploration of the kidney will cause the appearance in the urine of all the elements generally found in acute inflammations of the organ. Another form of nephritis following shock, which runs to a rapidly fatal issue has been called "*commotion renale*." It is the object of this paper to discuss the intermediate or *subacute form*. This type of case recovers as a rule, but may it not become chronic, bilateral, and present all the symptoms of Bright's disease? This question is of interest not only from a scientific but from a practical medico-legal point of view as well.

The author has collected 12 cases from the literature and presents a thirteenth which he saw with Castaigne. From a study of this material he describes the following symptom-complex; 1) Hematuria. This is generally evident in the first urination after the injury, but in a certain number of cases it may be delayed for days,—even as long as 32 in one case. This late appearance may be explained either by the temporary obliteration of the ureter by a clot, or by the fact that the bleeding in such cases is the result, not of the initial injury, but of a "congestive reaction." 2) Fever, also, may occur either at once, or after a lapse of days or weeks. It may often be brought on by, or be accompanied by a cold or some mild intercurrent infection as an angina, and is associated with the general symptoms of malaise, chills, etc., and with the urinary picture first of a subacute, then of a chronic nephritis. 3) Edema may appear at once or after the lapse of a relatively long period and involves at first the eyelids, trunk, and abdominal wall, and only later on, the extremities. Very striking and characteristic is the unilateral location of the edema in some cases. The side involved corresponds to that of the injured kidney, and this phenomenon has been explained by Potain on the basis that the irritated kidney nerves send impulses to the spinal cord which determine a vasomotor reflex involving the corresponding side. The author has even seen such edemas in unilateral nephritides of non-traumatic origin. 4) Uremic symptoms occur as in ordinary forms of nephritis, and the usual nervous, respiratory or digestive complaints come on usually several weeks or months after the accident.



The determination of the blood urea and of the coefficient of Ambard has been done in but one case. Cardio-vascular symptoms seem to be unusual. The urinary syndrome is of importance and the best idea of the extent of the lesion can be obtained by a study of the urine several weeks after the injury. The total amount is diminished, as is the output of urea. Albumen is generally excreted in the amount of 1 to 4 grams daily. Microscopic examination reveals all the formed elements found in sub-acute or chronic nephritis.

It is however the separate study of the urine from each kidney, obtained by ureteral catheterization, that gives the most valuable information. The ordinary toxic nephritis is generally bilateral whereas traumatic nephritis is always unilateral at the outset, and when it involves the second kidney, it does so only slowly and gradually.

Coming back to the original question, the author concludes from his study that chronic nephritis, differing in no respect from the ordinary Bright's disease, may undoubtedly develop from renal trauma. We now come to a consideration of the origin of the renal inflammation following trauma on the one hand, and of the mechanism of its spread to the uninjured kidney, on the other. It is clear from the experience of clinical surgery that ordinary trauma will not suffice to explain the occurrence of an inflammatory, sclerosing process in the affected kidney. The existence of infection must be assumed, and that this actually takes place is suggested by the frequent occurrence of fever. As portal of entry—for there is no open wound—we may invoke the existence of one of the intercurrent infections previously mentioned, and as immediate cause the presence of some organism circulating in the patient's body.

The propagation of the infection to the healthy kidney may be explained on the head of a reno-renal reflex for its temporary effect, or for a more lasting action on the assumption that the constant irritation of the renal plexus on the diseased side may cause an increasing functional, and finally an anatomical, disturbance on the part of the healthy organ. This phenomenon has been likened to sympathetic ophthalmia. Finally, it has been suggested that the absorption of products of cellular disintegration from the diseased organ may, by a special selective, toxic action, affect the epithelium of the second kidney in such a way as to produce the interstitial changes characteristic of a sclerosing nephritis.

## THE INFLUENCE OF SPECIFIC TREATMENT—NEO-SALVARSAN IN PARTICULAR—ON THE WASSERMANN REACTION.

DRS. LEVY-BING, DOGNY, AND GERBAY.

**A**LTHOUGH we were at first satisfied to regard the Wassermann reaction merely as a diagnostic procedure, we now wish to know whether it does not exactly express the degree of infection of the patient, whether it cannot furnish us the basis for directing specific treatment, or whether it is to be regarded merely as a symptom of syphilis, comparable to any of the other symptoms of the disease, and having no greater significance than any of these. From the therapeutic point of view, can the Wassermann reaction, when determined periodically in patients, tell us how long to continue treatment, instruct us as to the exact effect of treatment on the syphilitic virus and help us to establish the relative value of various specific treatments?

In order to answer such questions as these, the authors have studied 40 cases which they divided into thirteen groups as follows: 1) Primary syphilis treated with salvarsan or neosalvarsan (10 cases); 2) Primary syphilis with beginning of secondary symptoms, treated with neosalvarsan (2 cases); 3) Previously untreated secondary syphilis, treated with neosalvarsan (7 cases); 4) Secondary syphilis, previously treated with neosalvarsan, now further treated with same (1 case); 5) Secondary syphilis, previously salvarsan and mercury, now neosalvarsan (1 case); 6) Secondary syphilis previously treated with mercury, now neosalvarsan (4 cases); 7) Primary syphilis, with beginning secondary symptoms, treated with neosalvarsan and Hg. (2 cases); 8) Secondary syphilis, untreated, now neosalvarsan and Hg. (5 cases); 9) Secondary syphilis, previously Hg, now neosalvarsan and Hg (1 case); 10) Tertiary syphilis, previously Hg, now mixed treatment, as above (1 case); 11) Secondary syphilis, previously mercury, now gray oil (3 cases); 12) Secondary syphilis, untreated, now calomel injections (1 case); 13) Secondary syphilis, previously Hg, now benzoate of Hg injections (2 cases).

From a study of these cases—the paper is profusely illustrated with charts showing the intensity of the Wassermann reaction—the authors conclude as follows:

In general, the Wassermann reaction is modified under the

influence of various antisyphilitic treatments. Mercury, in its various forms, slowly tends to render the reaction negative. Only numerous observations, extended over long periods of time, can give us an exact idea of this action.

Neosalvarsan seems to modify the Wassermann test more rapidly than does mercury, but a negative reaction once obtained is not always permanent. The results are variable and depend on the following factors: 1) The intensity of treatment. The larger the doses, the shorter the intervening periods, and the longer the series, the sooner is one likely to get a negative Wassermann. 2) The stage of the infection. The younger the syphilis, the more likely is the reaction to be influenced by treatment. 3) The patient himself. Some patients with little treatment soon have a negative reaction, whereas in others with much treatment, the reaction is hardly affected. In some such cases, to be sure, the syphilis may be malignant or meningeal in nature, but in the majority no known cause can be assigned for the failure to respond to treatment.

The 40 cases reported do not confirm the opinion that antisyphilitic treatment is capable of definitely rendering negative the Wassermann reaction. The authors have indeed observed that the sero-reaction often becomes negative after prolonged and intense treatment, but it does not remain so for long. In general, the Wassermann curve in a treated syphilitic presents a very irregular form (the authors chart the intensity of the reaction according to the scale—H<sup>0</sup> to H<sup>5</sup>—recommended by Desmoulière and previously described in an abstract in this journal). It is constituted by a series of sharp rises of varying height, separated at irregular intervals by plateaus of varying length.

A negative reaction, even of long duration, cannot be regarded as permanent. The authors cannot affirm that the results of the Wassermann reaction should be taken as a guide to the institution or suspension of antisyphilitic treatment.

Although we are still in ignorance as to the actual nature of the Wassermann reaction and have no idea as to the exact relation existing between the substances called antibodies and the infection itself, we nevertheless feel that the Wassermann test, when done carefully and interpreted in connection with the usual clinical tests, is of the greatest value as a diagnostic measure. But it should not be allowed to compromise the future of the syphilitic and we have no right to regard it as the most important criterion in the prognosis and treatment of syphilis.

## THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM WITH SALVARSAN IN THE FRANKFURT AND HAMBURG CLINICS.

**D**R. F. J. CONZELMANN read a paper on this subject before the N. Y. Neurol. Soc. and Neurol. Section of the N. Y. Acad. of Med. (Med. Rec. Feb. 6, 1915), in which he described in detail the methods employed in the treatment of syphilis of the nervous system with salvarsan in the two representative clinics in Germany—the Dreyfus clinic at Frankfurt and the Nonne's clinic at Hamburg. At the Dreyfus clinic the first idea of salvarsan was conceived, and here the great master Ehrlich visited the clinic, rendered individual supervision and offered suggestions. One was impressed with the well planned and orderly arrangement of the clinic, and the feature that stood out most prominently was that Dreyfus did not treat the patients as merely cases, but as individuals. He first selected the type of the disease; secondly, he gave the intensive treatment of salvarsan and mercury; thirdly, he adapted the dose of salvarsan or mercury to the individual and was guided by the constitutional reaction; and, fourthly, the treatment was continuous, with definite periods of intermission. Ehrlich and Dreyfus preferred old salvarsan to neosalvarsan, and used the latter only on certain indications, especially when a mild, non-irritating action was desired: nevertheless, the initial treatment was frequently begun with neosalvarsan. The concentrated solution of salvarsan was always used, and was prepared as follows: The dose of old or neosalvarsan was dissolved in 35 c.c. of double distilled water; then the sterile sodium hydroxide was added and the solution injected with the syringe directly into the vein. A searching physical examination of the patient preceded every course of treatment with salvarsan: in fact, it determined the final treatment. Patients suffering from syphilitic affections of the nervous system soon after the primary infection were as a rule strong, robust individuals, and could tolerate a much larger dose than those in whom the infection had been present for many years. If the patient suffered from gastric trouble, a thorough stomach analysis was made and the condition treated before giving salvarsan. In patients over 60 years of age, salvarsan was given with a great deal of care. In cases with tuberculosis, chronic heart disease or nephritis, the pros and cons were carefully considered. A course of treatment lasted six or eight weeks, during which time the patient received from three to six

grams of old salvarsan, or from four and a half to nine grams of neosalvarsan, with from six to twelve mercurial injections of 0.02 to 0.05 of a 40 per cent. calomel solution, or the same dose of some especially prepared oily solution of mercury. Patients, after receiving a dose of salvarsan intravenously, were kept in bed for twenty-four hours; if at the end of that time there was no feeling of illness nor rise of temperature, they were permitted to get up. Two examinations of the urine weekly were considered imperative. After the physical examination of the patient, which included lumbar puncture and a Wassermann test of the blood and spinal fluid, had been completed, the diagnosis of the stage of the disease was agreed upon, and a carefully planned, systematic course of treatment was begun. The approximate outline of such a course of treatment in early brain syphilis was as follows: A course of mercurial treatment consisting of five injections of 0.02 to 0.05 c.c. of a 40 per cent. calomel solution every third day. If, at the end of this time, the patient showed no febrile reaction to the injections of mercury, the injections of salvarsan were begun. The mercury injections were continued every third day, and a concentrated solution of 0.15 grams of neosalvarsan was injected directly into the vein with a syringe. If this dose produced no reaction, the patient received a second dose of 0.3 grams on the following day: no untoward symptoms developing, he received 0.45 the third day and 0.6 on the fifth day. This was continued every other day until the patient had received from one and a half to two grams of neosalvarsan. Dreyfus began the treatment with old salvarsan, generally starting with a small dose of 0.1 and never going beyond 0.4. The dose was repeated every second day. If at any time during the treatment the patient had a febrile reaction after the injection, the treatment was discontinued and not resumed until the patient was free from fever at least two days. A favorable prognosis was given in early brain syphilis—in fact, a positive cure was promised—to all who returned for re-examination and took the treatment if the physician advised it and considered it imperative. In the majority of cases of late syphilis of the cerebrospinal system the prognosis in the Dreyfus clinic was generally favorable for improvement, but not for cure. In tabes the patients were treated with salvarsan alone for three weeks, giving one injection of salvarsan of 0.1 to 0.2 grams every other day. At the end of that time the treatment



was combined with mercury. As a rule, Dreyfus preferred mercurial inunction in cases of tabes, but often used the mercurial salicylate. With this form of treatment the patients improved rapidly, gastric and lancinating pains disappeared and the ataxia and visceral symptoms improved. Tabetic cases were always emphatically advised to take a course of treatment every three months until four courses were taken. In the intraspinal administration of salvarsan, Dreyfus used Gennerich's modification of the Swift-Ellis method. He dissolved 0.15 grams of neosalvarsan in 300 c.c. of sterile salt solution, and of this solution five c.c. were injected intraspinaly after the withdrawal of an equal quantity of spinal fluid. His results in initial lues cerebri were very encouraging, while in tabes the results of the intraspinal method of treatment were symptomatic but nevertheless very striking. Dreyfus had no cases of general paresis in his ward. Since February, 1914, Dreyfus had used two new preparations of salvarsan from Ehrlich's laboratory: the one was copper salvarsan, the other sodium salvarsan. Both could readily be dissolved in water and did not entail the manipulation required in the preparation of old salvarsan. The solutions were given in concentrated form directly into the vein with the syringe. With this mode of administration, three or four cases could easily be treated in the course of half an hour. In Nonne's clinic at Hamburg, every patient suffering from syphilitic or metasyphilitic disease of the nervous system received a course of mercurial inunctions, irrespective of the stage of the disease. For purposes of treatment Nonne had his tabes cases divided into groups: one group received mercury inunctions, another group mercury inunctions and intravenous injections of salvarsan, a third group mercury inunctions plus intraspinal injections of salvarsan and a fourth group received no treatment whatsoever. In cases of general paralysis he used the mercurial inunctions and intraspinal injections of salvarsan: in cases of cerebral lues he preferred to give mercurial inunctions, with intravenous injections of salvarsan. He employed von Schubert's modification of the Swift-Ellis method. In his tabes cases Nonne got improvement, symptomatically, by the intraspinal method, but in some cases the bladder symptoms were very much worse after the treatment.

Dr. J. F. Terriberly said he had under his observation at the present time a man about 30 with tabes who was so much

disturbed by the old-time antisyphilitic treatment that all treatment was discontinued. Under this let-alone method he had remained comparatively free from symptoms during the past year, and excepting for a slight difficulty in locomotion he seemed to be in perfect health. We must not underestimate nature's restorative powers under good hygienic and dietetic conditions.

Dr. Conzelmann, in reply to a question, said that so many of Nonne's cases of tabes got along well without any treatment aside from rest in bed that Nonne was rather skeptical in regard to the value of the intraspinal injections in cases of tabes.

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### SPINAL ANESTHESIA IN UROLOGY.

Dr. G. G. Smith (*Interstate Med. Jour.*, November, 1914) reports favorably on the use of spinal anesthesia in 100 urological cases at the Massachusetts General Hospital. The drug used in most of the cases was tropacocain, put up in ampoules according to Doenitz' formula by G. Pohl, Schœnbaum. Each ampoule contains 1.3 c.cm. of a 5 per cent. tropacocain solution, with the addition of 0.00013 gr. suprarenin hydrochloride per c.cm. Tropacocain has been shown to be less toxic and less destructive of nerve tissue than stovain or novocain, and is the drug favored by most of those who have reported on spinal anesthesia. The specific gravity of the solution was found to be 1.0071, whereas the specific gravity of spinal fluid is estimated at from 1.003 to 1.007. In using this solution, therefore, the influence of specific gravity upon its diffusion in the spinal canal can be disregarded.

The dosage varied from 0.05 to 0.12 gm. It seemed that the anesthesia obtained with a moderate dose—0.075 gm. (1.5 c.cm. solution)—was as satisfactory as that obtained by larger doses. The symptom-complex consisting of nausea, vomiting, pallor and sweating, which is probably due to vasomotor paralysis, followed this dose in some patients, and did not follow larger doses in others. Larger doses give longer anesthesia, as a rule, but the anesthesia after 0.075 gram usually lasts for one hour, and the operator has not the hurried feeling which ether or gas-oxygen anesthesia may give when the patient is not in good condition. The puncture was made between the second and third or third and fourth lumbar vertebræ, rarely between the first and second. From 3 to 5 c.cm. of spinal fluid are drawn into the syringe to mix with the anesthetic solution before its injection.

The operations done under spinal anesthesia included cystectomy, cystotomy, prostatomy, prostatectomy, vesiculectomy, urethrotomy, perineal section, intravesical operations, amputation of penis, and operations on the scrotum and groins.

Renal operations under spinal anesthesia were not attempted, although a number have been reported in the literature. Manipulations about the kidney are painful unless the anesthetic is given so high in the spine that the risk of respiratory paralysis is greatly increased. Because of the uncertainty of securing anesthesia if the drug is injected low, and because of the danger if it is given high, and, furthermore, on account of the psychic shock incident to an operation upon so vital an organ as the kidney, the author is of the opinion that spinal anesthesia is unsuited for operations in this region.

He believes that spinal anesthesia may be used with safety in those younger prostatics who have not advanced arteriosclerosis. In men with stiff arteries and poor heart muscle, great caution should be employed.

For intravesical manipulation, spinal anesthesia is peculiarly well adapted. A small dose—0.05 to 0.06 grm. suffices, and, as was first pointed out by Albarran, it allows of a much greater distention of the bladder before setting reflexes in action than does any form of general anesthesia. The viscus is practically paralyzed; spasm disappears, and it is rare indeed that one cannot secure sufficient distention for cystoscopy or litholapaxy. For crushing stones in old men with cystitis, for securing anesthesia during fulguration in sensitive bladders, and particularly for cystoscopy in tuberculous cystitis, spinal anesthesia is invaluable. The duration of the anesthesia is sufficient to allow thorough search for the ureters and the employment of chromocystoscopy and the functional tests. There is singularly little disturbance of the bladder after these intravesical operations.

The method *per se*, if properly carried out, bears only a very slight risk. The greatest risk comes from the fall of blood-pressure which it occasions, especially in arteriosclerotics. It should not be used when local anesthesia will suffice. In patients with tuberculosis, renal disease or debility, and in emergency cases unprepared for etherization, it is of the greatest value.

# REVIEW OF EUROPEAN UROLOGIC LITERATURE

THE ENDOSCOPIC DIAGNOSIS AND THERAPY OF PROLIFERATING  
URETHRITIS. *H. Lohnstein.*

Proliferating urethritis with its villi and polypi and the characteristic changes at the colliculus and internal sphincter can now be readily diagnosed by the urethroscope invented by Goldschmidt and perfected by Lohnstein and Wossidlo. Similarly the therapeutics of this condition has been rendered much more effectual. However it has recently been shown that polypoid overgrowths may exist without symptoms and that, conversely symptoms may persist after the removal of the new growths. The work of Oberländer, Neelsen, and Finger, has shown that the above changes may be only a part of a more diffuse and extensive process. No matter what the origin of the urethritis, whether it be the gonococcus, tubercle bacillus or some other organism there is always a general infiltrating inflammation of the mucosa with an involvement of the complicated glandular system of the deeper layers.

However even this diffuse infiltration may be treated by energetic measures (e. g. dilatation and irrigation) but without relief in certain chronic cases. In such instances the persistence of symptoms was shown by the author to be due to a diffuse superficial proliferation of the surface epithelium. Since these caused no change in the elasticity of the mucosa it is easy to see how no effect was produced by dilatation whereas curettage was quickly productive of cessation of symptoms.

The advent of the operating, irrigation-urethroscope has been of the greatest service in limiting precisely the indications for curettage, and in rendering the procedure safe and practically bloodless, since it can be carried out entirely under control of the eye. This treatment is indicated where the process is one of diffuse, flat, proliferations or where the mucosa seems reticulated and granular. Curettage is *contraindicated* in the presence of hard infiltrations, scars, bands, or villi and polypoid excrescences. In these cases of course the great danger is from hemorrhage and it is much better to remove such growths by galvanocauterization or electrocoagulation.

The operation of eurette should be carried out with great care and gentleness. The instrument should never be forced through against great resistance. Especial care should be taken at points where there are great changes in the level of the mucous membrane, whether these are due to pathological (polypi), or natural (changes in diameter), causes. Marked changes in diameter occur normally at the colliculus and in the bulbous urethra. Following these precautions Lohnstein has had no serious

hemorrhage or other complications in over 600 curettings. Persistent discharge, and shreds in the urine have been cured in 75 percent of about 100 cases thus treated.

Certain cases with persistent symptoms show no causal factor with the ordinary method of urethroscopy. It is only after the pressure resulting from the passage of some instrument, such as the curette, that small foci of pus and shreds of mucosa and secretion are here and there visible. These represent for the most part the retained contents of blocked up urethral glands, and it is for the more thorough expression of these that the author has invented his urethroscopic roller ("massierwalze"). The points where such retention of secretion is most likely to occur are the fossula prostatica, the pars bulbica, and the middle of the pars cavernosa. The massage treatment is best accompanied by irrigations at a temperature of 120° F. In massaging the anterior urethra a short attachment is used whereas for the entire urethra a longer bent piece is screwed on to the end of the urethroscope. The author claims that in 40 out of the 50 cases in which he has employed urethral massage (in combination with other lines of treatment) the shreds and discharge have become noticeably less after the first sitting. It is well to note that he always supplements this special treatment with weak irrigations or strong instillations of some silver preparation.

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A CATHETER CLOSING DEVICE. *Emil Schweinburg.*

This is invented for the purpose of controlling the outflow in cases of urinary retention. The attachment, which is made of nicked brass, tapers at one end where it is hooped so that it can be introduced into any kind of a catheter, but is wider at the other end so that a syringe can be fitted to it. Near the outlet is a cock so that the flow of urine can be readily controlled or stopped if necessary.

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Zeitschrift für Urologie, VIII, 7.

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A CASE OF DOUBLE URETHRA. *M. Porosz.*

The author describes a case of secondary urethra. Three days after a suspicious coitus the patient noticed a crust just above the normal urethral aperture. When the scab was removed a small opening was apparent which exuded pus on pressure. The normal urethra was unaffected and this was attributed to the patient's having used a 2 percent nitric acid solution as a prophylactic, and to the action of the urine as a cleanser. An attempt was made to seal the paraurethral canal as a prophylactic measure against infection of the urethra, but this failed and a typical urethritis resulted which ran a three weeks' course.

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Zeitschrift für Urologie, VIII, 7.



The paraurethral canal admitted a sound for twelve cm. when an obstruction was encountered. Injections also proved that the second urethra was blind. Gonococci were found in its secretion from the beginning, but despite the most active treatment the infection here ran a six weeks' longer course than it did in the normal canal.

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CYSTOSCOPY IN TUBERCULOSIS OF THE BLADDER. *M. Heitz-Boyer.*

Preliminary treatment is often necessary before a good cystoscopic picture can be obtained. At the time of examination the bladder should be cocainized. In some cases general, or better still, spinal anesthesia will be necessary.

Tuberculosis produces in the bladder lesions similar to those of the mucous membranes elsewhere. More often however, and especially at a later stage these lesions are combined with, and washed by, those of a superimposed simple infection. The former condition constitutes *tuberculosis of the bladder*, the latter *tuberculous cystitis*.

Tuberculosis of the bladder presents the picture of characteristic, strictly localized lesions without the involvement of the bladder as a whole, that is, without the classical symptoms of cystitis. There are two typical lesions, viz., granulations and ulcerations. The granulation is a pin-head sized elevation with sharp borders. It is at first gray in color, then becomes yellow, and finally breaks down into a miliary abscess. It is generally found in relation to the blood vessels, usually at a point of bifurcation of the latter. It may be single but is generally multiple and is found near the ureteric orifices especially at the angle formed by the junction of the trigone with the lateral walls. It is always surrounded by a fine red areola. The tuberculous ulceration appears in two forms. In the first instance it may be crater-like, with punched-out or even undermined borders and a white or yellow base. It results from the confluence of several breaking down granulations. More often the lesion is shallow and raised from the surrounding mucosa. The base is red in parts, in others it is coated with a tenacious, yellowish layer. Its borders, which are never undermined, consist of a narrow, plateau-like, rim, which is often polycyclic, resulting from the conglomeration of broken down granulations. About it is an intensely congested zone which resembles the areola surrounding the granulations, but on a larger scale. The seat of

predilection of these ulcerations is on the lateral wall of the bladder. They may be single or multiple.

The rest of the vesical mucosa is generally healthy. This is the rule. Occasionally however it presents areas of intense vascularization which have been likened to ecchymotic plaques. The ureteric orifices, especially, are seats of characteristic changes. They may be surrounded by ulcerated, crater-like, edematous, or bullous areas. Occasionally they are sclerotic, their walls rigid, and their mouths open.

Tuberculous cystitis on the other hand presents nothing so characteristic as the above picture. The lesions are diffuse and mixed in type. They may be ulcerative, vegetative, membranous, diphtheroid, edematous, or bullous in nature. The ureteric orifices are deformed and may be very difficult to discover.

The paper is accompanied by two splendid plates in colors.

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CONGENITAL ECTOPIC KIDNEY TAKEN FOR A MESENTERIC TUMOR.

*Georges Labey and Jean Paris.*

The patient was a woman of 21 who had had at the age of 14 an attack diagnosed as appendicitis. There was severe pain in the right iliac fossa and vomiting. Operation was refused. Since then there was occasional pain in the right iliac fossa, but nothing characteristic until the present attack. This was marked by severe general abdominal pain without vomiting but with obstinate constipation. There was no urinary disturbance whatever. On examination, a tumor the size of a fist was discovered slightly to the right of the median line at the level of the umbilicus. The mass was smooth, non-tender, resonant on percussion, yet superficial to the touch, and easily moved from side to side. The diagnosis of cyst of the mesentery was made.

At operation a dystopic kidney was found. The organ was of normal size, ovoid in shape, flat from before backward, non-lobulated, and presenting its hilus anteriorly. The ureter arose in two branches. There was no trace of pelvis. The renal vessels arose from the vena cava and aorta, passed *behind* the kidney, curved around its right border, and then entered the hilus from in front. There were two accessory vesical pedicles, one above, the other below, the main vessels.

Although the vessels were sufficiently long to allow it, no

attempt was made to replace the kidney in its normal position since this would require another incision by the lumbar route. Besides, the adhesions formed after the original intervention were counted on to hold the kidney fixed in position.

The appendix was found normal. Subsequent ureteral catheterization showed that the ectopic (right) kidney was functioning quite as well as the left. An x-ray catheter was inserted up the right ureter and was found first to make a wide bend outward in its upper part and finally to curve inward again toward the median line.

Recovery was uneventful, the patient getting up on the sixteenth day. The case is of interest because of the marked lateral mobility of the tumor, there being practically no motion in the vertical direction.

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A CASE OF SPECIFIC NEPHRITIS (SECONDARY STAGE) COMPLICATED BY AN INTERCURRENT TYPHOID FEVER. *J. Colombe.*

The patient was a woman of 25 who contracted a syphilitic chancre in March, 1912. In April, secondary manifestations appeared and she was put on active mercurial and salvarsan treatment. In February, the patient suffered from an attack of varicella. The urine was not examined at that time. In August she began to have edema of the extremities and face and the urine contained albumen. The condition grew worse and in October the patient was admitted to the hospital. There were practically no subjective symptoms and the blood pressure was low. The albuminuria kept on increasing despite limitation of fluids and milk diet. The urine also contained leucocytes and a few casts. By November however the edema disappeared and there was a corresponding loss in weight. From the middle of the month however, the temperature, which had hitherto been normal began to rise, and presently the patient presented the picture of a full blown typhoid with a short relapse. With the defervescence, the albumen in the urine diminished in quantity and changed from the retractile to the nonretractile variety. The patient was discharged well in January and in April her condition was normal and the urine was free from albumen.

That the nephritis was of specific nature was assumed to be so from the clinical picture, the massive albuminuria, and the

coexistence of cutaneous lesions. It is not unknown to have the disease progress under treatment. A toxic (mercurial) nephritis would have produced but a slight albuminuria, there would have been changes with the suspension and resumption of treatment. Besides, there never was stomatitis.

An interesting point is the appearance of non-retractile albumen in the urine. Albumen of this type has long been regarded as of good prognostic import in nephritis.

As for the mechanism of the paradoxical disappearance of syphilitic albuminuria in the course of a typhoid fever, the author can give no satisfactory explanation. Certainly it was not the diet or lack of it, nor the rest in bed, for these factors had been tried out months before the outbreak of the fever. [Incidentally, how did a patient two months in bed in a hospital, come to get typhoid fever?—Ed.]

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NOTE ON THE USE OF ADRENALIN FOLLOWING SALVARSAN INJECTIONS. *M. J. Schwarzman.*

Basing his conclusions on the observation that the second aortic sound becomes weak in certain cases following the intravenous injection of salvarsan, Schwarzman suggests the theory that the reaction in such cases may be entirely due to vaso-motor paralysis. He believes that this condition is quite comparable to the toxic vaso-motor collapses observed in infectious diseases, and recommends that before an injection of salvarsan is undertaken, the functional efficiency of the circulation should be investigated. Furthermore, should an injection of the drug be followed by evidence of arterial depression a dose of adrenalin should be given at once.

The author does not agree with Milian in his contention that salvarsan reactions are due to insufficiency of the sympathetic nervous system and of the adrenal. He regards them rather as due to a paresis of the circulatory system and while this usually affects the vaso-constrictors, it may (and does in a minority of cases) paralyze the vaso-dilator system instead. In such cases, of course—where salvarsan acts as a vaso-constrictor—adrenalin is naturally contraindicated.

## ADENOPATHY OF THE EPITROCHLEAR GLANDS IN SYPHILIS.\*

*A. Lévy-Franckel.*

This paper is based on a study of the occurrence and significance of epitrochlear adenopathy as observed in Gaucher's clinic at the Saint-Louis Hospital in Paris. The author grouped his material in the following way: 1) Cases of glandular or cutaneous tuberculosis, 2) Cases of proven secondary syphilis, 3) Patients in whom syphilis was suspected. He controlled his results by the Wassermann reaction.

He concludes from his analysis that nonsyphilitic adenopathy of the epitrochlears is unusual. In secondary syphilis with numerous lesions of the skin and mucosæ, the adenopathy is often missing. It is as if there occurred an immediate infection of the blood stream.

In atypical secondary syphilis ("syphilis secondaire fruste") with few or no cutaneous or mucous membrane manifestations, epitrochlear adenopathy is very frequent. It then possesses a definite diagnostic value and may point to syphilis in the absence of other manifestations. In such cases the "syphilitic septicemia" seems to be much attenuated, as if the spirochetes did not invade the organism except slowly and through the lymphatic system.

The adenopathy may last several years in the absence of other symptoms. It then indicates a latent infection which may at any time become active and give rise to symptoms of greater or less severity. Furthermore, the epitrochlear glands may become necrobiotic with the development of ganglionic gummata. These latter are for the most part bilateral, but their development is more rapid on one side than on the other. Unlike similar swellings in other regions which are indolent, these gummata are generally tender. Their appearance however is typical and they show the usual tendency to invade the overlying skin.

The development of epitrochlear gummata may be very precocious. The author reports a case in which they appeared nine months after the initial lesion.

NEVUS AND HEREDO-SYPHILIS.\* *Drs. Gougrot and Paul Blum.*

The authors believe that the pathogenesis of certain nevi can be explained on the basis of hereditary syphilis. In the case re-

\*Annales des Maladies Vénériennes, July, 1914.



ported, the subject, a man of 21, was affected with a verrucous nevus which involved the left parietotemporal, the parotid, the sub-maxillary, and the supra-hyoid regions, and which extended in the median line, interrupted in parts, from the level of the hyoid as far down as the xiphoid process. In addition, he presented the following stigmata of heredo-syphilis: diastasis of the upper median incisors (Gaucher), high arched palate, flattening of the nasal bones, subnormal stature. Despite these slight findings and a negative family history, the Wassermann test was completely positive.

The patient presented himself for treatment, not because of the nevus but on account of a left sub-maxillary adenopathy of several months' standing. This may also be a syphilitic manifestation. On the other hand, the cutaneous tuberculin test was positive and the left ear presented a reddened, squamous lesion, resembling lupus erythematosus. This case may therefore be another illustration of the frequent association of hereditary syphilis and tuberculosis.

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A CASE OF GENERAL PARESIS RAPIDLY AGGRAVATED BY 606. *Jean Bobrie.*

The patient was a man of 35 who contracted syphilis in 1907. During the next four years he received thorough specific treatment. In 1911 he had two attacks of preputial herpes which disturbed him much mentally. The next year he received large doses of iodides and took a second cure at Luchon. On his return home he found that he was sexually impotent but this symptom was relieved by injections of testicular extract. In 1913 he had an attack of jaundice which passed off but which was followed by various digestive symptoms and much worry. He was examined by the author in March, 1914, who found nothing abnormal save the gastro-intestinal condition. The skin, reflexes, and pupils were negative. The Wassermann, however, was strongly positive.

In view of this finding the patient was given 0.15 gm. neo-salvarsan on March 18. Three days later he began to present typical delusions of grandeur. Two days after that he received a second injection of the same sized dose. Despite this, his euphoria became so marked that he had to be taken to a hospital which he entered on March 26, absolutely non compos. On March

22 the pupils had been found to be unequal and had reacted poorly to light.

The author believes that the symptoms of general paresis were most probably brought on by the neosalvarsan treatment.

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HEMOSTATIC VALUE OF ELECTRO-COAGULATION IN TUMORS OF THE  
BLADDER. *E. Desnos.*

High frequency currents applied by means of an appropriate electrode to living tissues have a double action. At the point of contact cauterization takes place, whereas at a distance there is a coagulation owing to the diathermic action of the current. It is this diathermic effect which plays the principal role in Beer's method of tumor "fulguration," and yet the author has achieved striking results which he attributes to the cauterization.

Desnos reports two cases of bladder tumor that had caused severe hemorrhage, a symptom which he readily controlled by several electrocoagulations. At first, owing to the bloody field, the applications were of necessity rapid and to the superficial projections of the tumors only, but subsequently thorough "fulgurations" were done with the result that the hemorrhages were absolutely controlled. A third case of bladder tumor is also reported in which the chief symptoms were those of cystitis. This also cleared up considerably under this treatment.

As regards pathogenesis the author's observations would seem to suggest that the bleeding from the neoplasms occurs at the very extremities of the villi of the tumors, since their destruction suffices to arrest hemorrhage. However the complex action of electrocoagulation does not warrant this conclusion. For cauterization of tumors is no new procedure, and yet not only has this failed to control hemorrhage but severe bleeding has been observed to follow its employment. Is it therefore the direct cauterization of bleeding surfaces, or the coagulation at a distance with vascular thrombosis, that plays the predominant role? Whichever is the case, the latter phenomenon occurs almost instantaneously, for the author has observed its effects even where he had to work very fast and move his electrode almost at once from one villus to another.

RENAL MOBILITY AND ITS CONSEQUENCES IN THE RADIOGRAPHIC DIAGNOSIS OF RENAL CALCULI. *Drs. Rafin and Arcelin.*

The kidneys normally move up and down with respiration. They also descend in the standing, and ascend in the lying posture. Moreover, they may approach or recede from the median line; and, finally, they may become fixed in a normal or an abnormal position. The mobility of the kidney is best studied with the X-rays. This investigation is especially favorable in kidneys with stones (provided the latter are not free in the renal pelvis). Otherwise collargol injections of the kidney pelvis are necessary.

The authors have studied the position of the kidneys in patients lying on their backs and in deep expiration and deep inspiration. In some cases, they found that considerable perinephritis prevented the descent of the kidney with respiration. In other cases, this renal immobility was due to fixation of the diaphragm on that side.

Rafin and Arcelin report an instance in which a radiograph made in expiration showed the presence of a shadow partially superimposed upon the twelfth rib. Another plate taken with the patient in forced inspiration showed the shadow 5 cm. lower. This proved not only the presence of a stone but indicated mobility of the kidney. At operation the presence of stone was confirmed but the kidney was found to be even less mobile than normal. The calculus seemed to be formed largely of oxalates.

External compression will not immobilize the kidney. The picture showing an excursion on respiration of 5 cm. on the part of the kidney, was taken with a compression exceeding 40 kilos. Despite the slight discrepancy in the case cited, the authors feel that this method is of value in deciding as to the mobility of a kidney and thus suggesting to the surgeon possible difficulties in its mobilization as well as possible avenues of approach.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. IX.

MAY, 1915.

No. 5.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

## THE GOLDSCHMIDT AND WOSSIDLO TECHNIC IN HANDLING OBSTRUCTIONS AT THE VESICAL NECK.

BY CHARLES M. HARPSTER, F. A. C. S., M.D. Toledo, Ohio.  
Genito-Urinary Surgeon Toledo Hospital, Associate Surgeon  
St. Vincent's Hospital.

Very great progress has been made during the last five years in diagnosis and treatment of diseases and conditions of the posterior urethra, especially so in handling contractions, bands, scars, etc., at the vesical orifice. By the old methods of endoscopists, the pathological changes of the posterior and prostatic urethra and their many relations to disturbances in the uro-genital apparatus were recognized to a great extent, and treated; but they had to work under great technical difficulties, and their results were certainly inferior to what we secure to-day.

The introduction of the older endoscopes, particularly those of the straight tube model, which was used at that time, was often attended with difficulties, and required great technical dexterity on the part of the surgeon. The difficulties were from bleeding and the constant leaking of the urine into the field.

It seems almost superfluous for me to call attention to the fact that these procedures must be used only in selected cases under the most rigid and careful asepsis. In cases in which tolerance to instrumentation has not been established the same painstaking methods must be used as are used in cystoscopy or any other bladder or urethral instrumentation. Disappointments will be less frequent and better results will be obtained by vigorous attention to these details and by thorough mastery of the technic and use of the instruments under discussion.

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Read before American Urological Association, Baltimore, April, 1915.

Tandler and Zuckerkandl agree that hypertrophy of the prostate always begins in the middle lobe, and that the mechanism of the bladder closure and the emptying of the urine may be ascribed to the sphincters of the prostate. Wilson and McGrath also agree in these findings.

Wossidlo says, "Since Oberlaender in 1893 wrote his text book on urethroscopy, we have made very remarkable progress." In the first place Oberlaender and Kollman have based and perfected upon urethroscopy the diagnosis and therapy of chronic gonorrhoeal urethritis, and their teachings to-day have been accepted by all urologists. Goldschmidt's first model consisted of a straight fenestrated tube which carried a lamp at its closed end. This was improved by a flat lamp introduced into the straight tube, parallel to the optic.

Recent investigations have convinced many urologists that the Nitze-Oberlaender with a Valentine lamp is preferable to the irrigation urethroscope, because the water pressure often causes the softer infiltrations of the urethral mucosa to disappear, and only the coarser plastic changes to remain visible.

The view obtained from the use of the older urethroscopes was small, and great patience was necessary to properly interpret them, and this explains why so few urologists used posterior urethroscopy. E. L. Keyes, Jr., emphasizes the point that in theory, as in practice, the problem of retention is mechanical; the bladder neck, and especially the elevation of its inferior lip, is the important mechanical obstruction. Goldschmidt's instruments permit of cauterization of the vesical neck, but local applications can not be made with same. For moving forward and backward and for lifting and lowering the cauteries his instruments are provided with a complicated set of screws which renders technique difficult and requires frequent repairs. A further disadvantage is that all instruments must be held in the median line, where they run in an unchanged direction, and that a change of the operating instrument requires the removal of the tube, as almost every instrument is fitted to a tube of its own.

Quite frequently the pains of dysuria bring a patient to us with cloudy urine, and some of these cases have swelling of the mucous membrane, granulations and polypi on the border of the internal sphincter of the bladder, or at any other place in the deep urethra.

In chronic prostatitis we see the walls of the prostatic urethra rigid, and this does not disappear on pressure with air or water.



Often berry shaped growths project into the urethra.

H. Wossidlo has published a report on a case of tuberculosis of the posterior urethra, so that we readily see how accurate a diagnosis can be made with his instruments.

The bent tube of Wossidlo has received a slight turn at the convex side which gives a greater field of vision, so that a larger area can be viewed.

To be able to use the urethroscope under a moderate air pressure and to gain a better distention of the urethral walls a small tube has been attached, through which air may be forced by aid of a bulb. The tube rises at its vesical end to a cone which occludes securely the orifice of the bladder. The drainage tube attached to the sheath permits a thorough irrigation of the field without a rapid filling of the bladder with the irrigating fluid, as is the case with the Goldschmidt instrument, where, when the optical tube is introduced, the liquid has no other exit than into the bladder. It is easy to wash away any blood that may interfere with the examination or treatment, and the picture becomes more rapidly clear. The latest model of the Wossidlo instruments is very simple, permitting, as it does, of the change of operating instruments with the tube always in place after once placed in the bladder; and at the same time the instruments may be moved readily from their axis. Many different instruments can be used through the same tube as galvano-cautery, galvano-cautery knife, a curette, a sharp pair of tongs or scissors, needles, probes, sounds, etc. One directs the instrument toward the place to be operated upon by the aid of the optic, then removes the ocular, opens the cock on the shutter, and slides the desired instrument through the opening below the optic, and then the ocular is replaced. When the galvano-cautery knife is used we recognize its action by the appearance of fine bubbles of gas, and then the burnt tissue turns white. Deep cauterization should always be avoided, as it is much better to repeat after ten days if same should become necessary.

I shall not at this time go into a detailed report on the cases in which I have used the Goldschmidt and Wossidlo urethroscopes, but will give a few details regarding these instruments and their uses. The Goldschmidt instrument is constructed in a number of different models. The one I use is the posterior urethroscope with the galvano-cautery attachment. Goldschmidt and others have used the cautery repeatedly on the same patient, and numerous incisions of the obstructing median lobe or obstruct-

ing bands have been made at different times. The delicate construction of the instrument is one of its most serious drawbacks. I have seen quite a large number of cases on which perineal or suprapubic prostatectomy had been performed, and the retention and residual urine not entirely or not at all relieved by these procedures, in which one or more cauterizations with the Goldschmidt cautery relieved the residuum or retention. After a prostatectomy, sometimes, when made even by our best and most able surgeons, contracting bands will recur and residual urine result from this recontraction of the bladder neck. This condition I have seen occur after both perineal and suprapubic prostatectomy.

In using the cautery (Goldschmidt's or Wossidlo, Jr.) bleeding occasionally occurs and obscures the field of vision, although if considerable care is used and strong pressure of the irrigating fluid secured this can be avoided. I have never seen any alarming hemorrhage take place however. A large residuum can be reduced several hundred cubic centimeters even after a single cauterization in some cases.

The statements oftenest made by those opposed to the method, that it is unsurgical and that the repeated cauterizations leave the prostatic portion scarred and battered, are not true of the procedure in the hands of careful operators. If used in all cases of prostatic obstruction the method, on the whole, is bound to be a failure. The contention that in those cases in which cauterization has been performed prostatectomy afterward becomes a necessity, because of infection and replacement of the cauterized tissue by new growth or the obliteration of the new channel by the enlargement itself, is well founded, if this operation is used in cases which are not adapted to it.

In a recent article Dr. Young says:

"During recent years I have appreciated more and more that there existed a group of prostatic obstructions which could not be very satisfactorily treated by either perineal or suprapubic prostatectomy; the cases of inflammatory median bar formation or contracture of the neck of the bladder.

"I have developed an entire new procedure—the urethroscopic median bar excision by means of a special 'punch'—which I have used since April 20, 1911, on about seventy patients with no death and with excellent results. This method makes it possible to perfect the results obtained either by perineal or by suprapubic prostatectomy in cases in which, by the contracture of the tissues after operation, slight obstruction is produced."

The instrument of Buerger is valuable for examination, and I wish it were possible to have the cautery feature attached.

A great instrument was brought into use when Nitze perfected his cystoscope. Obstacles which had seemed unconquerable surrendered, one by one, to his energetic and persevering will until a result was attained which is so simple that the original problem appears to have been an easy one. Without relying on the achievements of others, Nitze worked independently and set up in place of unsafe and uncertain methods which could be carried out only by masters in our profession, an easy, positive and definite method of examination which has proved a blessing to sufferers.

#### ADVANCE IN ENDOSCOPIC METHODS

Endoscopy of the stomach, according to the method of Nitze, was later taken up by von Mikulicz, who also developed the exploration of the urethra with an instrument which made it possible to throw light into this canal. Oberlaender likewise advanced and improved this method, but in spite of his efforts he was unsuccessful in reaching a result which can be compared with that of illuminating the bladder. Goldschmidt says: "We are now able to know the exact normal or pathologic conditions of the bladder, and the same can be obtainable for the urethra."

The old endoscopic experiments on the bladder and urethra by Desormeaux, which were carried on still further by Grünfeld, consisted in nothing more than the insertion of the largest possible tube; over the inserted end of the tube, one portion of the mucous membrane of the bladder after another was viewed as the tube was withdrawn, by the reflection of light through the tube from the outside. At the best, only such portions of the wall of either the bladder or the urethra could be viewed at one time as could be surfaced over the end of this small tube. This condition of affairs was changed, as far as examination of the bladder was concerned, when Nitze invented and applied a finely developed lens-system, by the aid of which he could view a portion of the bladder many times larger than the inserted end of the instrument. Not all improvements in the last ten years were essential to the principles of the shape of the instruments, but have been usually applied to the electric technicalities of the lighting features of the different cystoscopes and urethroscopes. Excellent photographs of the interior of the bladder and urethra, attesting to the diligence and ingenuity of the photographer, Kollman, have been made by the use of different appliances.

Goldschmidt started his experiments some years ago along the line of Nitze's lens-system, and by hard work and close observation to detail he was able to solve the problem. By the use of cystoscopic optic and convex lenses of smaller diameter than the object to be seen he produces a wide field of vision. When such collective lenses are inserted into a lighted tube, the rays coming from the inner surface and end of the tube will be gathered by the lenses, affording a view of the interior, at the end of the optic. This picture can be enlarged through a convenient ocular, just as is done with pictures of relative objects in endoscopy.

Many trials were necessary before Goldschmidt was able to construct a practicable and simple instrument. In the progress of his work Goldschmidt used only living subjects and constantly adhered to practical methods. He used water as a dilating medium, instead of air or any of the various gases. While trying to produce the largest possible expansion by strong pressure of the dilating medium, he found, much to his astonishment, that only a little dilatation was necessary to produce a uniform tube of the urethra which could be accurately viewed with his optical appliances.

#### THE GOLDSCHMIDT INSTRUMENT AND ITS USE

The instrument is so constructed that a stream of water can flow through the space between the endoscope and optic into the urethra and douche it out. The instrument ends vesically with either a rounded point or a bill-shaped point, and is inserted with a well-fitting obturator into the urethra, permitting cold or hot boric acid solution to run from an irrigator into the water chamber. To douche out the anterior urethra only a slight pressure is necessary, but to douche out the posterior urethra it is necessary to raise the irrigator to about 2 meters above the pelvis of the patient. When the obturator is withdrawn, the optic is inserted, the water-chamber closed and the electric cables are connected.

The form of the instruments is such that their insertion and handling for ordinary cases cause no pain, and all operations can be done with local anesthesia. Bleeding does not often occur. Infection is reduced to a minimum by the continuous irrigation with boric acid solution. The normal anterior urethra by physiologic dilatation is like a uniform tube, much like the inner walls of the arteries: complete and incomplete rings can be seen, and the uniformity of the mucous membrane is interrupted only by shallow papillae and indentures, which are sharp-cut, round open-



ings, and when infected become enlarged and deeper and often appear diverticular. The mucous fibres are often firmly attached to the mucous membrane and cannot be dislodged by a strong stream of water in chronically infected urethras.

It is interesting to observe how man is able to open voluntarily the mouth of the bladder as soon as he chooses to empty the bladder. This method no doubt will be much used to diagnose causes of nocturnal enuresis, as direct observation of the act of urination can be secured.

By changes in the prostate many disturbances of urination take place, especially in cases of enlargement or distortion of the middle lobe. Goldschmidt says: "We often find that the sphincter does not close, but irregularly cleaves." Whether the posterior urethra acts as a reservoir in the act of urination was much discussed some years ago. If the mouth of the bladder closes completely, which as a rule can readily be seen by the aid of the instrument, it becomes easy to decide whether the sphincter is properly functioning. Many and varied causes of disturbances of urination and difficulties in the prostatic urethra can be analyzed by direct observation of urination.

In cases of enlargement of the so-called middle lobe, and the lengthening of that portion of the urethra between the colliculus seminalis and the entrance to the bladder, one can see, when the patient urinates, how this middle lobe is pushed forward and the lower wall of the prostatic urethra is pressed against the upper wall and, instead of a relaxation, a contraction of the urethra takes place. The lateral walls of the urethra become changed from old infectious processes, and in comparison with a normal urethra appear granulated, hard and inelastic. In the prostatic urethra are found many mucous accessories and polypoid tufts.

If the light is just passed into the bladder the internal sphincter can be seen, and by moving the instrument one can appreciate the thickness of the lips of this orifice; any irregularity or thickening of the edge can also be observed very distinctly. The difference is particularly remarkable in cases of hypertrophy of the middle lobe of the prostate. The larger the lobe the more one is obliged to push the instrument inward until the protuberance of the sloping part of the bladder is reached. As the window of the urethroscope is divided into half centimeters, one can ascertain the size of the sphincter's edge, which normally does not exceed 0.25 cm.

The neck of the bladder having lost all elasticity, every



effort at evacuation of the urine is followed by convulsive movements of the prostatic and posterior urethra. These movements also accompany the passage of the contents of the bladder into the posterior urethra. The clear water used for irrigation becomes turbid, being mixed with the contents of the bladder by these movements of the urethra.

If slight bleeding occurs the hemorrhage is washed away by the water which constantly flows through the visual field. The prostate presents in the field, and not only the anterior portion, but also the prostate is seen in its entirety, as the tonsils are seen in the throat.

The operation of Bottini and Freudenberg's modification thereof were performed in complete darkness, and are not to be compared with the Goldschmidt or Wossidlo methods, by which a full view can be obtained. The diagnosis, even by cystoscopy, shows only the prostatic prominences in the bladder, while most of the protuberances which prevent the evacuation of urine are caused by projections of the prostatic gland into the prostatic urethra.

It is unnecessary for me to say that the Goldschmidt method is not intended to replace prostatectomy in any way, but I positively know that these methods will, if properly used, decrease the number of radical cutting operations, the same as skill in performing litholopaxy does away with the necessity of opening the bladder.

Note.—In this review of posterior urethroscopy I have quoted freely from the writings and observations of Goldschmidt, Wossidlo, Frank, and many others.

701 Madison Ave.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

### IMPROVED BATTERY FOR CYSTOSCOPY.

BY S. W. MOORHEAD, M.D., Philadelphia.

The usefulness of the dry-cell battery, manifested particularly in its portability and freedom from shock-giving proclivities, has been considerably lessened by two great disadvantages, so far as the illumination of cystoscopes is concerned. The cells require renewal at not very great intervals, and during the latter part of the life of the individual cells the decrease in the amount of current generated is so rapid that it is not possible to complete the examination of the bladder without altering the resistance in the rheostat, a procedure fraught with considerable peril to the cystoscopic lamp. The former disadvantage is reduced



to a minimum by the use of tungsten cells, which have much more endurance than the older type of cell, while the latter may be entirely done away with by the insertion of a current indicator in the circuit.

The mode of operating this device is as follows. Before the insertion of the cystoscope into the bladder the amount of electricity required to properly heat the filament as indicated by the ammeter, which is mounted in the battery case, is carefully noted. If during the examination the illumination becomes unsatisfactory a glance at the dial indicates whether the fault lies with the electrical supply, or whether it is to be sought in other directions, as clouding of the medium by blood or pus. If the amount of current indicated be less than that found to be necessary at the beginning of the examination, the remedy lies in reducing the resistance offered by the rheostat till the needle registers the desired amount of current, the change being made without fear of burning out the lamp. If, on the other hand, the meter should read as at the beginning of the examination, the remedy lies in washing out the bladder or cleansing the lenses, under which circumstances it were folly to risk the destruction of the lamp by increasing the current, as might well be done were the condition not indicated by the meter. Under such circumstances the operator may well be saved the annoyance of the insertion of a new lamp.

The apparatus was originally constructed to meet the above indication, which it has done in a most satisfactory manner. It has also proved useful in locating short circuits, whether these occurred in the connecting cables or in the cystoscope itself.

The battery illustrated contains twelve small tungsten cells, such as are regularly stocked by electrical supply houses, arranged in multiple series so as to furnish current in the most economical manner possible.

1523 Pine Street.

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## ON THE CAUSES OF DEATH FROM SALVARSAN.

BY IVAN C. DREYFUS.

**G**ROUPED symptomatically, accidents following the administration of salvarsan may be satisfactorily classed as follows: 1) nervous, 2) renal, 3) hepatic. The exact etiology of these accidents however is not so clear. The older theories of arsenic poisoning, the liberation of toxins, the "water error," the Herxheimer reaction, idiosyncrasy, are being discarded and the blame is now being fixed on renal, and especially, on hepatic insufficiency. Dreyfus says: "Though the symptoms may point to the kidneys and brain, the disease is in the liver."

The liver has the power of storing large quantities of poisons and of discharging them into the circulation in small doses.\* As soon as 12 minutes after an intravenous injection of salvarsan, arsenic has been found in the liver. This organ not only has the power of storage but has an antitoxic action as well. Should the storage limit be exceeded by repeated rapid injections there is an "overflow" into the circulation just as in the case of sugar when the glycogenic limit of the liver has been exceeded.

It follows from the above, as well as from special animal experiments, that a healthy liver is the sine qua non of salvarsan therapy. Alcohol and pregnancy are the chief causes of liver insufficiency, as witness the large proportion of salvarsan deaths in the alcoholic and pregnant. Injury to the liver parenchyma has been shown to have the effect, not only of *not fixing* the arsenic injected, but of liberating the arsenic of injections previously deposited in the injured cells. The hepatic parenchyma may be affected by salvarsan in two ways: 1) There may be a transient irritation. This is expressed by a urobilinuria which has been repeatedly observed, even in otherwise perfectly normal urines. 2) In a more advanced stage, there may be an actual injury to the parenchyma which is expressed by icterus. The

earlier this appears, the less severe is the injury. Late jaundice is always fatal and has been shown to be associated with a sub-acute yellow atrophy of the liver.

The author reports a case of syphilis in the secondary stage. The subject was alcoholic. Physical examination was negative except for the liver, which reached two finger breadths below the false ribs and was sensitive on pressure. The urine contained traces of urobilin. Salvarsan was considered to be contraindicated, but the patient insisted on having the drug. A minimum dose of neosalvarsan was followed by a diminished amount of urine which contained traces of albumen and bile, and urobilin in large quantities. Despite these findings, a second larger injection was given within three days. This was followed by an epileptiform seizure, coma, and death. There was no autopsy.

Salvarsan affects the kidney, as it does the liver, by causing a tumefaction of its mucosa. This effect is expressed by a temporary diminution in the output of urine. For three or four days the 24-hour quantity does not exceed 600 c.c. This little known effect has been found almost constantly following different forms of injection. Diuresis is still more diminished in cases which have received both salvarsan and mercury. A more severe injury to the kidney causes albuminuria and cylindruria. Even hematuria may result. From this point of view nervous phenomena are explained as uremic in nature. But this theory will not cover all cases of cerebral involvement. It is also clear that arsenic intoxication as such cannot cause the picture of hemorrhagic encephalitis typical of deaths from salvarsan.

The author believes these phenomena to be due to an oxidation product of salvarsan (para-aminophenylarsenoxyd) formed in the circulation when the liver can neither fix nor de-toxicize, and the kidney cannot excrete the drug. It has been shown that salvarsan preparations, when left exposed to air, increase in toxicity. Ordinarily, following an intravenous injection, the greater part of the drug is excreted in the next three days, with a maximum output during the first 24 hours. Only traces of arsenic are found in the urine after the seventh day. Now when both the liver and kidney are damaged, and the salvarsan confined, so to speak, to the circulating blood, the conditions are ripe for oxidation, just as on exposure to the air, and the formation of the poisonous oxide. From this point of view, the nervous symptoms may be regarded as the expression of hypersensitiveness of the central nervous system to the products of retention.

In order to "play safe" with salvarsan, one should, according to Dreyfus, observe the following precautions:

1. A large dose should never be given when a small one will do as well. Just as rapid and lasting results have been observed with 0.3 g. as with 0.6 g. doses of salvarsan.

2. Injections should not be repeated at intervals shorter than one week. The author regards as folly such colossal administrations as 8.5 gm. neosalvarsan in 12 days!

3. The urine should be watched both before and after the injections, and comparisons made as to the relative total output and the presence of urobilin, bile pigments and albumen.

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## CONCERNING CERTAIN PROBLEMS IN URETHROVESICAL DIAGNOSIS AND TREATMENT (WITH DESCRIPTION OF A NEW INSTRUMENT).

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**I**N the past decade we have witnessed a complete revolution in our conception of the proper method of carrying out operative procedures in the bladder through the cystoscope.

The introduction of a new endovesical armamentarium, too, has altered not a little the technic of observation cystoscopy and catheterization of the ureters, whilst the adoption of the cystourethroscope in routine work has made possible the visualization of the posterior urethra and neck of the bladder in so clear a manner that this region has been transformed from a veritable terra incognita into a thoroughly explored and easily approachable field.

The development, introduction and perfection of new instruments have probably done more for the popularization of cystoscopic investigation than the prolific writings of the older specialists, who, it is true, almost monopolized this field for many years. This was due to the fact that they alone possessed the requisite skill to make a complete urological examination with the somewhat imperfect and cumbersome appliances at their disposal. Thus, the operating cystoscope of Nitze, in spite of the ingenuity of its in-



ventor and the enormous amount of work entailed in its construction, must necessarily by reason of its complexity have been relegated into the hands of only a few skilful technicians. Then, too, the optical systems of the older observation instruments, the darkness of the visual field, the inversion of the picture, the traumatism inflicted by the large-sized, irregularly formed catheterizing cystoscope—all these presented difficulties to the general surgeon, so that many refrained from using the instrument at all, and, strange to say, many even urged against this method of examination.

Although some ten years ago intravesical diagnosis and the application of therapeutic measures in the bladder were procedures resorted to by relatively few, what with the simplification of instruments, the invention of a new optical system, and the demonstration that lesions heretofore almost inaccessible could be brought to light with ease and precision, thorough investigation and thorough therapeutic operative methods in the bladder and urethra offer to-day no greater difficulty than any of the general surgical manipulations.

Thus, we have witnessed in this country, at least, at two different periods, the introduction and rejection of methods of technic in cystoscopic work, each time initiated by the development and popularization of new types of instruments. For a time the older Nitze cystoscope introduced by American students studying in Berlin and Vienna held almost complete sway in this country, only to be supplanted in great part by what many regarded as a simpler method of catheterization—the method of Brenner perfected by Tilden Brown. The revival of the indirect method has been almost universal in the United States, however, since it was conclusively demonstrated some six years ago that the Nitze indirect prismatic system was after all the best to use, for the difficulties presented by the older instruments had been completely abolished with the construction of a new mechanical assemblage (Fig. 1), and by distinct improvements in the optical apparatus.<sup>1</sup> The principles laid down by the author at that time and the demonstration that the synchronous catheterization of both ureters could be made even easier than single catheterization with the older Nitze instrument, have been generally accepted; and even in the modifications of the author's instrument that have found their way into literature since, not a single essential element of these principles has been altered. Furthermore, when in 1910<sup>2</sup> by the use of three reversals<sup>3</sup> it was found possible by the author to construct a telescope giving many times

more light than we had heretofore been able to procure in catheterizing telescopes, it seemed that the most intricate problem and difficulty that confronted us in ordinary routine and catheterizing cystoscopy had been solved.

But we are not content to-day merely to look into the bladder and catheterize the ureters, for vesical and renal lesions present more difficult tasks to the cystoscopist and genito-urinary surgeon. That keen investigator, Nitze, had already attacked these other problems when he developed a series of operating cystoscopes. With these, it is true, he was successful in doing operative work in the vesical interior. Others, however, had found his instruments so cumbersome, unwieldy, and complicated that relatively few genito-urinary surgeons possessed the skill and patience to master the difficulties of the technic. Operative cystoscopy, therefore, remained for many years rather of theoretical interest than a practical art. Indeed, the operating cystoscope seemed to be a curiosity in the armamentarium of a few, and not a generally useful instrument.

Some four years ago, after considerable experimentation, my endeavor to construct a cystoscopic instrument, by means of which operative and diagnostic work could be easily carried out, bore fruit in the production of the instrument depicted in figure 2. It was found possible *without appreciably increasing the size of the catheterizing cystoscope*, to construct an instrument<sup>1</sup> that would carry devices of adequate size, so that the execution of operative maneuvers in the interior of the bladder would be as precise and effectual as the manipulations that can be carried out by the surgeon under the direct guidance of the eye.

The most useful of the devices that can be introduced through the operating cystoscope can be seen in figures 3 and 4, where the forceps for the purpose of grasping foreign bodies, punch forceps for the removal of pieces of tissue, and cutting forceps are depicted. Some of these (Fig. 3) are made to pass through a flexible wire canula that can be directed against any part of the bladder interior, others (Fig. 4) close by a scissor-like motion and are practically part of the canula itself. In addition to these most generally useful instruments, there is the snare (Fig. 3), particularly to be recommended for the removal of papillomata. Figure 2 shows the operating cystoscope with one of the operating forceps in place, the handle for the purpose of closing the jaws being also illustrated.

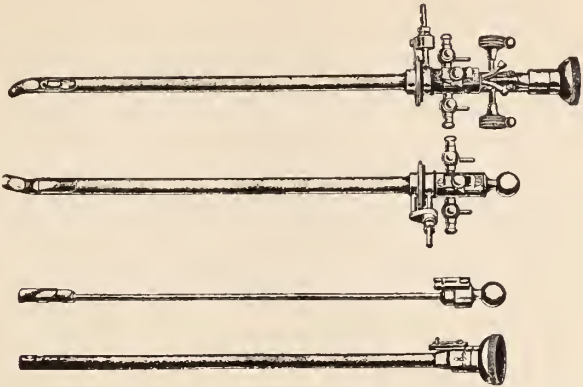


Fig. 1. Author's observation and catheterizing cystoscope.

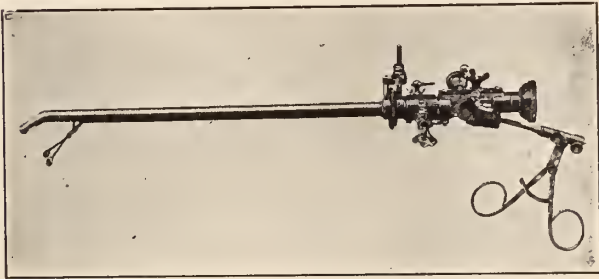


Fig. 2. Author's operating cystoscope.

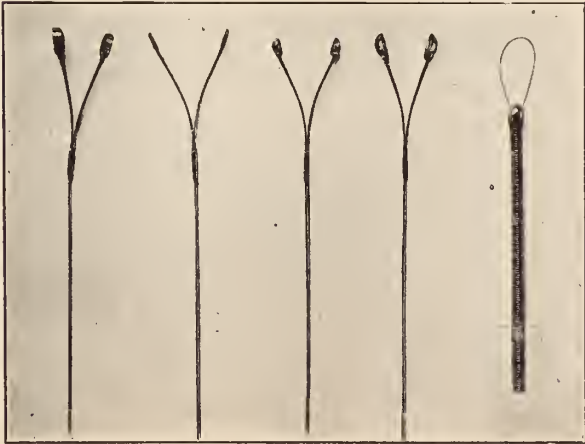


Fig. 3. Working ends of operating instruments including cutting, grasping, punch forceps and snare.

In practice I have found this instrument useful in the removal of foreign bodies, in the excision of pieces of mucus membrane for differential diagnosis of intravesical lesions, in the removal of portions of tumor for diagnosis, in the excision of callous ulcers, in the removal of small stones, in the snaring of papillomata and foreign bodies, in the division of a stenosed ureteral orifice, in facilitating the employment of the high-frequency current, in the introduction of olivary bougies for dilatation of the ureters, in the intravesical treatment of ureterocele by division and excision, in the passage of large catheters (such as could not usually be passed through an ordinary cystoscope), in the employment of more than two catheters for purposes of special diagnosis, in the excision of mucus membrane about the ureteral orifices, to diagnosticate renal tuberculosis, and in many other rare and interesting conditions.

Thus, some of the difficulties of observation cystoscopy, ureteral catheterization, and operative cystoscopy had been eliminated by the adoption of properly constructed devices.

Are we able to say that no other problem in the field of visual diagnosis of the lower urinary tract remains to be solved? Indeed not. It is true that the demonstration of the anterior urethra had been adequately accomplished in principle, at least, by Desormaux.<sup>5</sup> His endoscope has subsequently been perfected by many workers since the introduction of the modern electric lamp. But there still remained certain other portions of the urethrovesical tract that offered even greater difficulties than those with which the urologist had been previously confronted. I refer to the posterior urethra and to the region of the neck of the bladder, the latter including the sphincteric and juxtaspincteric regions.

It is my purpose in this paper to refer briefly to some of my previous work, in which the question of the examination of the posterior urethra had been investigated, and then to show that even those regions which are so difficult of approach, namely, the sphincteric and juxtaspincteric portions of the bladder, may be thoroughly scrutinized and made accessible for operating purposes.

In 1909 the shortcomings of the methods that had been employed up to that time for viewing the posterior urethra had induced me to direct my efforts towards the construction of an instrument by means of which the neck of the bladder and posterior urethra could be more satisfactorily seen. It is true that Goldschmidt had produced about this time an instrument that

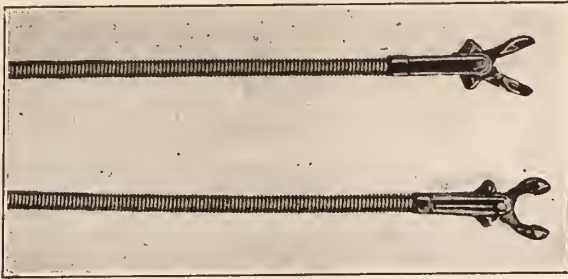


Fig. 4. Scissor type of cutting and punch forceps.

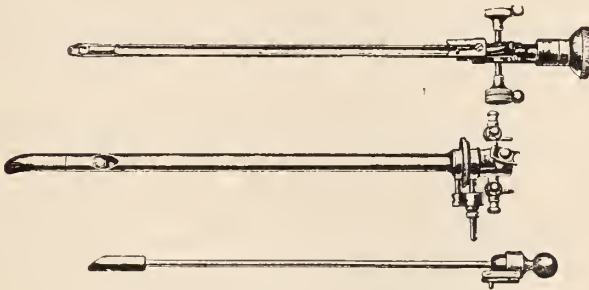


Fig. 5. Author's cystourethroscope.



Fig. 6. Author's operating cystourethroscope.

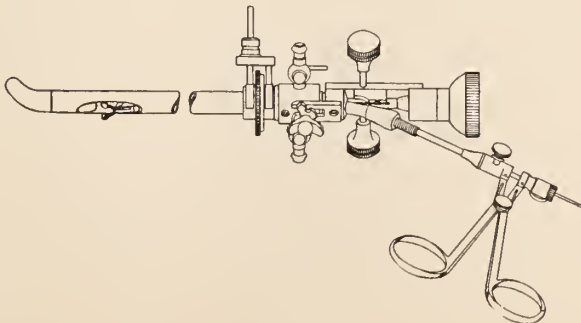


Fig. 7. Operating cystourethroscope with punch forceps.



gave a fairly good view. However, even his innovation had left a great deal to be desired; for, not only do the structures brought into view by his instrument appear distorted by virtue of the very nature of the optical apparatus, but manipulation of the instrument in the urethra produced a certain amount of traumatism, because of its mechanical construction. All the drawbacks of this instrument, namely, optical distortion of the image, inadequate illumination and the probability of traumatism were overcome in the construction of an instrument to which I gave the name of *cystourethroscope* (Fig. 5). In this, by the adoption of a fenestra of small size into which the mucous membrane could hardly prolapse except at the verumontanum, by the employment of a new type of roof illumination and by the introduction of an optical system of small visual angle, it was found possible to establish conditions permitting of very good vision in practically all of the posterior urethra.

The possibilities of this instrument have been fairly well outlined in other papers.<sup>6</sup> Its value in demonstrating clearly every detail of the posterior and anterior urethra has been sufficiently established so as to need no comment here. It suffices to say that we are now able to view the verumontanum, utricle, ejaculatory ducts, prostatic ducts, sulci on either side of the verumontanum, the whole of the prostatic urethra, and a portion of the neck of the bladder with the same degree of distinctness and accuracy with which the interior of the bladder can be inspected through an observation cystoscope. I was able to show that operative procedures could be carried out in the posterior urethra, that ulcers and tumors could be cauterized by the fulguration method, that the ejaculatory ducts could be probed as well as the utricle, that the site of strictures of large caliber could be definitely outlined, that anomalies could be beautifully demonstrated, and that in the diagnosis of prostatic hypertrophy the employment of this instrument was absolutely essential for an exact appreciation not only of the extent of the hypertrophy, but of its nature and situation.

The region of the internal sphincter is even less accessible and certainly more difficult of approach with endoscopic operative instruments than the posterior urethra. Its anatomical conformation makes operative procedures through a cystoscope or urethroscope exceedingly difficult. Both in cystoscopy and in cystourethroscopy, we have to rely, to a considerable extent, for

the clearness of the field upon the unfolding of the parts, that is, upon our ability to dilate the parts with a clear fluid, developing a space in which the telescopic instrument can have free play. This we are able to do in the bladder with great ease, where the sphincter successfully bars the egress or exit of the water after it is allowed to flow in. This, too, we are able to accomplish in the posterior urethra, but in a somewhat different manner. As the irrigating fluid flows out of the instrument at the fenestra, it tends to dilate the posterior urethra, its easy entrance into the bladder being successfully barred by the grasp of the internal sphincter about the shaft of the instrument.

Quite different are the conditions when the telescope is at the vesical sphincter. The fenestra is then partly in the bladder, into which the irrigating fluid can pass without hindrance. Then, again, the distensibility of the vesical sphincter is much less than that of the posterior urethra or bladder, and the tendency of lens system and parts to be seen to approach each other is difficult to overcome. Not only this, but our attempts to gain room for operative work, for the protrusion of instruments of precision, must be rewarded with very little success in so small a working space, unless by reduction of the size of the appliances or by the construction of a special telescopic instrument, we are able to negate some of the obstacles above described.

Were it not for the fact that we not infrequently encounter lesions of this very part of the bladder, the necessity for an operating instrument would hardly arise. With the new type of cystoscope used in the convex sheath, with the so-called close-vision cystoscope devised by the author some years ago, and with the cystourethroscope a certain amount of operative work can surely be carried out in the sphincteric region.

However, neither the cystoscope nor the cystourethroscope can be regarded as completely satisfactory in this territory. The former is not ideal for purposes of inspection by reason of its large fenestra, the great distance between the center of illumination and the part to be seen, and the nature of the optical system. Nor is it satisfactory in the accomplishment of work that must be carried out within a very small space. The experienced cystoscopist readily appreciates how impossible it is to illuminate the field properly with the cystoscope, how transillumination will occur, and how the deflector of the instrument will be situated too far back in the urethra for the guidance of the

operating devices when the sphincteric region is to be attacked. Much better is the cystourethroscope in this regard, except that it will not carry forceps large enough for the excision of pieces for microscopic examination. In diagnosis and for fulguration it will, however, answer all purposes.

About a year ago, therefore, I devised an operating cystourethroscope which combines features of the operating cystoscope and cystourethroscope. In this instrument it was thought wise to assemble the features of close-vision that were so successfully developed in the cystourethroscope with such variations in mechanical detail as would permit simultaneously the adequate inspection of the parts and their operative control. Figure 6 depicts this instrument, which, at first glance, might be regarded as identical with the cystourethroscope. However, it presents the following differences: the light is changeable, resembling that first suggested in the author's first type cystourethroscope; two different styles of lamps may be utilized, one small lamp that hugs the roof of the sheath and is designed for moderate illumination at the sphincter; another, shorter, more brilliant lamp that will be of greater use in illuminating the bladder. The former of these lamps is the one that answers practically all purposes, and will be seen to be situated very close to the telescope. This is an essential feature, if we wish to get proper illumination of parts that are limited to the small space presented by the internal vesical sphincter.

The telescope differs, in its length, in certain details of optical construction from that employed in the cystourethroscope; and there is a larger deflector, one that will be strong enough to guide not only a stiff bougie or fulguration wire, but also small-sized operating punch forceps. Its ocular end is provided with a large catheter outlet, of sufficient caliber to carry one or two catheters, so that synchronous catheterization of the ureters is possible. A large bougie for dilatation of the ureter may be introduced, or smaller bougies or stylets for the exploration of the utricle and ejaculatory ducts. The sheath is similar to that found in the cystourethroscope, but its beak is shorter. This, however, can be replaced by a longer one if we so desire. The sheath is slightly oval rather than circular in cross-section, first, in order to place the optical system as far away from the field as possible, and, second, to give room for the introduction of the operating devices.

In short, we have an instrument which differs only from the cystourethroscope in its *capacity* for the introduction of larger instruments and in *the possibility of their control*. The scope of the apparatus, too, is much wider, since it permits of easier catheterization of the ureters and of more extensive work in the bladder, in the sphincter, and in the urethra. By virtue of its longer deflector, the sphincter can often be pushed away, making access with operating instruments easier.

Perhaps the most useful field for the application of this operating cystourethroscope is in the treatment of papillomata at the sphincteric margin and in the removal of pieces of tumor for histological examination (Fig. 7), when situated in the same region. The following case will clearly illustrate the value of this instrument for just this type of work:

*Multiple intravesical papillomata, multiple papillomata at the sphincteric margin.*

L. L., male, age 58, gave a typical history of papilloma of the bladder, there having been hematuria for about two months without apparent cause and without pain. Cystoscopic examination August 5, 1914, showed a large papilloma about the size of a walnut situated about 2 cm. behind the left ureteral orifice, several smaller papillomata behind this in the posterior wall, and a large growth, the size of which could not definitely be determined, occupying the right half of the sphincter and juxtaspincteric regions. Several smaller papillomata arose from the sphincteric margin at the left side, and a rather large growth occupied the superior wall or roof of the sphincter apparently passing into the wall of the roof of the posterior urethra for a short distance and also into the bladder, thus occupying the sphincteric margin, the urethra and the contiguous bladder region (juxtaspincteric region).

Several treatments with the high-frequency current destroyed the large tumor behind the left ureter and the smaller ones in the posterior wall, the catheterizing cystoscope having been employed.

For the purpose of destroying the growths at the vesical margin, however, it was necessary to have recourse to the operating cystourethroscope, by means of which on October 3, 1914, several pieces were removed with the punch forceps for microscopic examination. These proved to be papilloma and the use of the high-frequency current was persisted in, the operating cystourethroscope being employed. With this instrument I was successful in

destroying these papillomatous growths completely in a region where the ordinary cystoscope even with a convex sheath would have encountered great difficulties.

Several other cases of the same type where the growths were situated either at the sphincteric margin or involved more extensively the urethra, the sphincteric margin and the bladder have been treated in this way. For precise and effectual work in this region, both with the high-frequency method as well as for the removal of pieces of tumor, the operating cystourethroscope must be employed.

In the posterior urethra, too, therapeutic manipulations can be executed with great ease and accuracy. Papillomata can be removed, the hypertrophic and inflamed colliculus can be excised; and the application of the high-frequency current is facilitated by the use of the operating cystourethroscope.

While in my own work the complete armamentarium—*observation and catheterizing cystoscope, operating cystoscope, anterior urethroscope, cystourethroscope, and operating cystourethroscope*—have all their proper sphere of usefulness, the general surgeon may dispense with the simple cystourethroscope, utilizing the operating cystourethroscope both for purposes of diagnosis and for special operative work.

<sup>1</sup> Buerger: Annals of Surgery, February, 1909.

<sup>2</sup> Buerger: New York Medical Journal, April, 1911; Am. Jour. Urol., September, 1911.

<sup>3</sup> Refers to reversal of image in the telescopic tube.

<sup>4</sup> This instrument retains the essential principles followed in the construction of the author's cystoscope.

<sup>5</sup> Desormaux's instrument, devised in 1865, consisted of a tube to which the source of illumination was attached. This was a kerosene lamp, the rays of light being reflected into the endoscopic tube by a mirror.

<sup>6</sup> Buerger: American Journal of Urology, January, February, March, 1911.

## COMBINED TREATMENT OF SYPHILIS WITH MERCURY AND SALVARSAN.

BY G. W. HARTMAN, M. D., San Francisco.

**D**UE to the complement fixation test, the cultivation of spirochetac, and the new arsenic therapy, the literature of syphilis has increased enormously in the last few years. Thought is beginning to crystallize and results formerly very much at variance are being reconciled. We consider-



ed that we got along very well in the pre-salvarsan days with the old intermittent treatment of Fournier and Neisser. There was supposed to be a psychological moment after the development of the secondary signs when treatment was to begin. If before that it would not be so successful. Treatment was continued over a period of two to five years with periods of intensive administration of mercury alternating with rest, during which potassium iodide was given. Relapses occurred frequently which yielded but slowly to treatment or the patient became, in years, a victim of one of the so-called para-syphilitic afflictions, tabes, general paralysis, etc.

It was natural, then, when Ehrlich's "606" was announced, that it should be set upon, administered to every one, by every one, regardless of everything but financial considerations and that it should, for a time, apparently fail. We have had the drug now for three years; I have administered in the neighborhood of 1500 injections and can say it is not a failure.

At the beginning we gave salvarsan alone; except in a few cases it did not give satisfactory results. I can recall two cases, husband and wife, who presented themselves with well defined secondary eruptions in whom a single injection cleared up all symptoms.

There has been no return, but I can say nothing of them serologically. (I hope that some day the Board of Health will do Wassermanns for us.) At first we got reactions of various kinds rather freely and so we began the use of mercury in conjunction.

When neosalvarsan became available we tried it and patients who had had both, demanded the new. It is more pleasant to take, reactions are not nearly so pronounced, there is no fever, chills or malaise; in fact, it is hard to keep a patient quiet after an injection. But neosalvarsan does not seem to be so potent; chancres, mucous patches, condylomata and skin eruptions do not melt away so rapidly nor is there that after-feeling of buoyancy and well-being.

Our method of administration has remained substantially the same. We use the intravenous exclusively. It is not necessary, in any instance, to expose a vein. The same vein can be used repeatedly. I am still using this very inexpensive apparatus<sup>1</sup> with complete success, using 125-150 cc. of distilled water for a full

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<sup>1</sup> Described in Calif. State Jour. Med., May, 1812.

dose. There are a number of objections to the highly concentrated (10-20 cc.) solutions. The loss of a few drops means a large amount of the drug and concentrated solutions are more irritating if any escape into the tissues.

The time of the circulation is about eight minutes; 125 cc. will flow through an average size needle in just about that time and give the proper distribution. Much has been said about the necessity for freshly distilled water. We use the ordinary commercial. It is filtered twice through double filter paper, all containers being rinsed with the final filtrate, then put into eight ounce bottles which are loosely stoppered with gauze, immersed in a water sterilizer and boiled for half an hour on two successive days. This keeps for eight to ten days. New bottles will show a sediment at the bottom due to the solution of some of the glass. These should be rejected. If these precautions are observed, reactions will be very rare and will not be due to water. Where reactions are present they are always less at subsequent injections. Complaint was made by one patient who at each injection declared that he smelt garlic. Another became slightly nauseated for a few moments at the beginning of each injection.

Lately I have seen two very striking reactions, both in patients with syphilis of long standing. Neither presented any of the usual contraindications against the use of the drug. In the first, shortly after the injection, there was a severe chill followed by a rise of temperature of several degrees, vomiting and general prostration. The urine was laden with albumen and all kinds of casts, chiefly coarsely granular. This acute nephritis cleared up entirely in about ten days.

The second patient began to cough during the injection and became very cyanotic, insisting that he could not breathe; shortly after his body was covered with raised wheals varying in size up to two centimeters. These were mostly on the limbs; there were a few on the lower abdomen. In an hour they were gone. As he was very nervous the next injection was arranged with the most favorable surroundings and given very slowly. The same phenomena took place. He was anxious to continue the treatment and got five injections in all. In each case with the same result, possibly a little less toward the end.

There are men who go so far as to say that there is no such thing as a soft chancre. Certainly many syphilitic primary sores are not indurated. All should be examined microscopically and if spirochetæ are found, mixed treatment begun at once. In this

type of case if this be done secondaries may never be seen. Patients do not appear with relapses as often as they did under the old treatment, but time is too short for final conclusions. It is useless to examine the blood at this stage for the Wassermann does not appear so early.

A long chapter might be written on the intra-urethral chancre. A watery discharge in which gonococci cannot be demonstrated, a dirty sloughy looking meatus or a narrowing of the anterior urethra all suggest lues. Occasionally one sees lues and gonorrhoea in the same infection. Cases with a primary sore and with indolent, painless swelling of the inguinal glands diagnose themselves. It is interesting to see swellings disappear and the lesions heal under treatment.

In the type of tertiary lesions which gave very poor results with the old methods we have had very good ones with combination treatment. A number of cases of spinal and cerebral lues responded extremely satisfactorily. A young man of twenty-five was admitted to the City and County Hospital in a state of semi-consciousness with left hemiplegia, opisthotonos and a perforated palate. He was put upon combined treatment at once. Following the first injection he showed a marked improvement, could move his limbs, but complained of severe headaches. After the second injection the headaches disappeared and he was clear mentally. In three weeks beyond a weakness in his left side all symptoms were gone.

A professional man had a sore twenty-five years ago which was declared cured after some local treatment; five years later he had sores on his tongue lasting two or three years. Five years ago he noticed heaviness of his speech lasting about one and a half hours. In January, 1912, he had what he called a "stroke" and then apparently his trouble was diagnosed for the first time. He had four "606's" and 70 rubs with a clearing up of all symptoms, but a persistently positive Wassermann. After a total of 180 rubs and three neosalvarsans, seven in all, the blood became negative. Long before that, however, the patient had gone back to his professional work which involves very fine manipulations and has also supervised the building of a new house.

In tabes, vesical symptoms, retention, pains, etc., have been relieved, but in no case have we seen the disappearance of true tabetic signs, absent kneejerks, Argyll-Robertson pupils and so forth. When the nerve substance has undergone destructive changes

there is very little hope of accomplishing anything, but with an active inflammatory process going on results are attained in an incredibly short time as compared with the old treatment.

In our routine treatment we start with inunctions of four grammes, giving a course of five, then the first injection, in men, of 0.9 grammes of neosalvarsan, in women, 0.45-0.6 grammes; this is repeated until 30 rubs have been given and three to five neosalvarsans. Potassium iodide in ascending doses is also given. After a pause of six to eight weeks a Wassermann is made. If negative a rest is allowed for four to six months and then another made. Should it, at any time, become positive intensive treatment is resumed until it becomes negative, or until it is demonstrated that this cannot be done. In exceptional cases we have given as high as nine injections.

Craig and Collins<sup>2</sup> report a case in which in 39 injections, 3 grammes of "606" and 117.45 grammes of "914" were given, with complete disappearance of all symptoms but persistence of the Wassermann. The method of giving inunctions is most important. They are best given by a trained rubber. Each rub should last at least 20 minutes, preferably 30. The intramuscular is the next method of choice. Oral administration is very unsatisfactory. Most late recurrences that we see have been those treated by pills, some of them over a period of five years.

In conclusion I should like to say:

(1) Salvarsan and neosalvarsan are a distinct addition to our armamentarium.

(2) They are best given combined with mercury.

(3) Neosalvarsan is more agreeable to the patient but is not so potent.

(4) The intravenous method is the one of choice.

(5) Many technical errors have been wrongly charged to the water.

(6) All chancres should be examined microscopically and if spirochetæ are found treatment begun at once.

(7) Central lesions show improvement with the mixed treatment, especially subjectively, much more rapidly under the new therapy.

(8) The attempt should be made if possible to get a negative Wassermann.

(9) Mercury is best given by inunction.

<sup>2</sup> Journal A. M. A., June 20, 1914.

# MORTALITY AFTER PROSTATECTOMY, BASED ON A STUDY OF 229 FATAL RESULTS.

BY BENJAMIN TENNEY, M. D., Boston,

AND

HENRY M. CHASE, M. D., Boston.

THE observations which this paper presents are obtained from the consideration of 106 fatal cases following prostatectomy contributed for our study by members of the American Urological Society, from other cases already in print and from a paper on Mortality after Prostatectomy published by us in 1906.

As many of the reports cover cases dying before our modern methods of investigation became common and others have been made up from incomplete records, the totals of the different observations vary. It may be regretted that this paper does not cover the percentage of recoveries as well. Possibly this may be taken up at another time, but this paper will be confined to a study of fatal cases and their relation to the conditions which existed before operation.

We have discarded the reports on cases operated under fifty years of age as likely to be complicated by acute infection of the urinary tract and by cancer. One hundred and sixty cases arranged by decades with the cause of death appear in Table I.

TABLE I.

	50-59	60-69	70-79	80-89	90	Totals	Cases from Previous Paper	Totals	
Uremia .....	7	15	16	3		41	25	66	30%
Sepsis .....	1	9	8	1		19	6	25	11%
Hemorrhage .....	3	10	13	4		30	11	50	22%
Shock .....		3	5			9			
Embolism .....	3	12	7	2		24	3	27	12%
Pulmonary .....	1	3	5	4	1	14	8	22	10%
Cardiac .....	1	4	6	1		12	9	21	9%
General Debility .....		3	2	1		6	1	7	3%
Acidosis .....		1	1			2	0	2	1%
Accident .....	1	2				3	6	9	4%

It appears that there were more deaths from uremia than from any other one cause. We have listed the deaths from sepsis next because some deaths assigned to this cause occurred so early as to suggest the influence of renal inadequacy in producing so early fatal results. Legueu goes even further and in a recent paper says: "Minute investigation of the conditions under which prostatic patients die compels us to attach more and more importance to renal insufficiency. Death from uremia fully ex-

Read at the meeting of the American Urological Association, 1914.  
*Bost. Med. and Surg. Jour.*



plains the accidents currently ascribed to embolism or pulmonary complications which in reality only play a secondary part. It would seem that alongside and vastly more than the liver, lung and heart it is the kidneys which most frequently kill our patients after operation and which furnish the underlying cause of many of the pathological troubles in those who recover."

The next most frequent cause of death is hemorrhage and we have listed shock after this because the two are so often associated and because some patients who were said to have died of shock lived for twenty-four hours or more before the end came.

It is our opinion that a reduction in mortality from these two causes is possible and that a distinct improvement over the results of ten years ago is already here.

The large number of deaths between sixty and eighty corresponds with the larger number of patients who were operated in these decades. Our previous paper, based on 816 operations by many different surgeons, showed that 80% of all prostatectomies were done on patients in these two decades. It may be interesting to reproduce the table from that paper showing the mortality in the different decades.

TABLE II.

	50-59	60-69	70-79	80-89	90
Number of Patients .....	120	422	240	24	2
Percentage of Fatal Operations.....	5.8%	9.5%	15%	33%	50%

This table was made up from ninety-one fatal results in the work of many different operators with a general mortality of ten per cent.

#### DURATION OF OBSTRUCTION.

There are 100 cases in which the duration of obstruction can be compared with the cause of death.

TABLE III.

	Duration of obstruction up to one year	One to three years	Over three years
Uremia .....	9	5	15
Sepsis .....	5	1	4
Hemorrhage .....	5	7	13
Shock.....			
Embolism .....	5	2	7
Pulmonary .....	0	6	3
Cardiac .....	1	1	6
General Debility .....	0	1	2
Accident .....	0	2	0
Total.....	25	25	50

The larger proportions of deaths from uremia, sepsis and embolism in patients operated within a year of obstruction, suggests that patients with impaired renal and circulatory apparatus are more likely to seek help early than those who have no disabilities outside the bladder.

PREPARATION UNDER HOSPITAL CONDITIONS.

There are 101 cases in which the preparation under hospital conditions can be compared with the cause of death.

TABLE IV.  
PREPARATION

Cause of Death	PREPARATION			
	Two days or less 44 cases	3-7 days 30 cases	8-14 days 20 cases	Longer 10 cases
Uremia .....	16=37%	9=30%	5=25%	3=
Sepsis .....	6=14%		3=15%	1
Hemorrhage .....	7=16%	8=27%	4=20%	1
Shock .....		1= 3%		
Embolism .....	9=20%	3=10%	5=25%	1
Pulmonary .....	1	3=10%	2	
Cardiac .....	3	3=10%	1	4
General Debility .....	1			
Acidosis .....				
Accident .....	1			

The diminishing percentage of deaths from uremia, as we compare the immediate operations with those delayed is certainly suggestive of the desirability of preparation before operation.

Along this same line it appears in Dr. Hugh H. Young's monograph of 1906 that while some few of his patients were operated within a day or two of admission, there was an average delay of more than eighteen days. You will remember that he reported seven deaths in a total of one hundred and forty-five cases.

PRELIMINARY DRAINAGE.

Thirty-six of these fatal cases were drained by catheter and ten by cystotomy before the prostatectomy. Drainage varied from one to ninety days. Fifteen were drained less than one week.

TABLE V.  
PRELIMINARY DRAINAGE

	Catheter	
	Drainage Cases	Cystotomy
Uremia .....	10	5
Sepsis .....	3	1
Hemorrhage .....	8	1
Shock .....	2	
Embolism .....	7	1
Pulmonary .....	4	1
Cardiac .....	1	1
General Debility .....		
Acidosis .....		
Accident .....	1	

These cases show nothing except that the drainage used was not adequate to protect them from the usual proportion of deaths from uremia, hemorrhage and embolism. It is a question whether drainage for less than a week makes any material difference in the condition of the bladder and kidneys.

If we are to drain before operation we should do it for a certain effect rather than for a certain number of days. If there is any reason for using drainage in preparation of patients that reason should be removed before drainage is given up. The replies to our question are too few to show anything as to the comparative value of long and short preliminary drainage.

### FUNCTIONAL TESTS.

The results of functional tests are reported in twenty-six fatalities.

TABLE VI.

	Cases with Functional Tests	General Percentage
Uremia .....	19%	30%
Shock and Hemorrhage .....	19%	22%
Embolism .....	23%	12%
Sepsis .....	4%	11%

The functional tests reported are phenolsulphonephthalein and urea percentage, the latter in two cases only.

We regret that the number of fatal cases in which some adequate test of renal function was made is so small as to be no test of the value of any of these recent methods. It does appear, however, that the percentage of deaths from uremia and sepsis is smaller among cases tested than among the general run of cases. We believe that the rapidity with which the phenolsulphonephthalein appears in the urine is of great value in estimating the progress made by a patient during his days of preparation. The new ferment which makes the estimation of urea in the blood and urine comparatively easy will doubtless bring the "uremic constant" into frequent use on this side of the ocean. No report of its use has come among these cases.

The hemoglobin test is reported in eighteen cases only. Four having hemoglobin of 80% or better died of hemorrhage; six with hemoglobin, between 70% and 80%, of uremia; four with hemoglobin of 80% or better died of embolism.

The blood pressure is given in thirty-one cases. Of those with pressure of 200 or over two died of uremia, one of hemorrhage and one of sepsis. Of those with pressure of 140 or be-

low three died of hemorrhage, one of embolism and one of cardiac disease.

The presence of edema is mentioned in only four cases.

In nearly all the cases dying of hemorrhage the mental condition is given as "Good" or "Fair." In the cases dying of uremia the mental condition is given as "Good" or "Impaired."

The effect of "clean bladder" in twenty-six cases is not apparent, one case dying of sepsis which is not far from the general proportion.

### ANESTHESIA.

The anesthesia is reported in 106 cases.

TABLE VII.  
AN. ESTHESIA

	Ether	Spinal	Nitrous Oxide	Chloro- form	Local	Gas Ether Chloro- form
Uremia .....	15	6	4	6	2	
Sepsis .....	4	1				
Hemorrhage .....	14	1				1
Shock .....	5					
Embolism .....	17	1			1	
Pulmonary .....	5	1	4		1	
Cardiac .....	3	2	1	1		
General Debility .....	2	2	1	1		
Acidosis .....			1			
Accident .....	2					

The proportion of deaths from uremia under chloroform and spinal anesthesia is larger than with the other anesthetics which may or may not be due to using these in the worst cases. Certainly neither anesthetic gives perfect security against death from this cause.

The causes of death as related to the type of operation appear in the following table.

Eleven fatalities following the two stage suprapubic operation, and seventeen following the transcapsular perineal operation are included in the above tables as both show the usual causes of death and do not materially alter the above figures. If we may regard the deaths from uremia, sepsis, shock and hemorrhage as being more likely preventable than those from other causes, it is worth noting that 48% of the deaths following the suprapubic route were from these causes, which may be compared with 72% in the perineal fatalities.

TABLE VIII.

	Suprapubic	Perineal
Uremia .....	18=22%	19=31%
Sepsis .....	4= 5%	8=13%
Hemorrhage and Shock .....	16=21%	17=28%
Embolism .....	15=20%	7=11%
Pulmonary .....	9=12%	6=10%
Cardiac .....	8=10%	2= 3%
General Debility .....	4= 5%	
Acidosis .....		1
Accident .....	2	

## GENERAL CONSIDERATIONS.

The three cases dying of accident were one from embolism following air distention of the bladder, one of sudden death with ether anesthesia while the patient was in the Trendelenburg position, and one from distention of the abdominal cavity by irrigating fluid used after the operation.

Under the heading of general debility we have included one case said to have died from acute dilation of stomach.

## COMMENTS.

"I am satisfied that air absorbed through the bladder walls or through a prostatic lesion was the cause of this man's death. I will never use air distention again."

"It is my opinion that the pressure of the perineal drainage tube on the purulent open vein field of the prostatic urethra forced the pus with blood clot into the veins on getting the patient out of bed, and this was followed by an embolic pneumonia and death."

"This patient was operated in a town nearby. I left the day after operation. I have since made it a rule never to operate away from home save in emergency."

"In talking with the various men doing this kind of work, I find that some insist that they will never operate outside of the hospital. I have seen cases in farm houses where something had to be done for relief immediately and where the suggestion of removal would not be listened to. I question very much whether some one will not have to do certain cases outside the hospitals."

"It is to be noted that I have never lost a private patient. All my deaths occurred in hospital cases in which I was unable to secure the sort of pre-and-post operative treatment upon which I cannot but think so much depends in the question of death or recovery."

## SUMMARY.

The greatest danger in the operation of prostatectomy is death from uremia or from conditions closely associated with it



After examining a patient we should be able to say that he is a good, fair, or poor risk with reference to this condition. If he is not put in the first class, we should try to put him there before operation or at least get him as near there as possible. Three fatalities from uremia reported to us in patients who had been carefully treated for more than two months, show that we cannot always succeed, but the percentage of deaths from uremia among the cases operated within two days was 37%, while the percentage of deaths from the same cause among patients who were observed long enough to have functional tests made was 19%.

The second great danger in this operation is death from hemorrhage and shock. Is it possible that in our desire to avoid shock by doing a rapid operation, we have sometimes produced shock and hemorrhage by doing a needlessly rough operation? There are reasons in the reports sent us for thinking that this may have had some influence. It is fair to say that a patient whose hemorrhage has been thoroughly controlled seldom starts bleeding again unless the gauze or other means of control is removed too soon. Possibly some operators have been disappointed at nature's failure to stop a leaking vessel which they had failed to close before the patient left the table.

The third serious fatality is embolism, which may also be the cause for some pulmonary complications.

How can we avoid at least a portion of this risk?

Blood vessels are necessarily torn and left untied. The wound is in an infected region and constantly bathed in a septic fluid. A larger raw area is left exposed to this contamination than in almost any other operation. Constant irrigation does not prevent embolism. It occurs when perineal, urethral and suprapubic drainage tubes are used and after both operations. Is it possible that our well meant drains are responsible for some of these emboli as suggested by Dr. Barnett?

Suprapubic tubes long enough to rest in the prostatic cavity and perineal drains reaching the same distance are well placed to disturb the clots in the surrounding veins as the patient moves about. Is there any need of tubes after either operation? There will be no back pressure of urine with a good sized opening in the bladder and we would welcome an early closure of the incision we make, provided the patient does not suffer thereby.

The deaths under the heading of Cardiac and General Debility are many of them uncertain. Some with autopsy would have been called uremic and some embolic. Some apparently re-

present the general giving out of the machine after the accident of prostatectomy and some a myocarditis.

It is not yet possible to say what the mortality of the operation should be because operators have such varied methods in their selection of cases.

A surgeon who believes that every old man suffering from prostatic obstruction is entitled to a chance of operative cure will have a higher mortality than the surgeon who refuses the desperate cases.

One skillful operator says privately that by selecting his cases he has done over ninety prostatectomies with one fatal result, and in contrast there is a mortality in some excellent hospitals of 20% or more. It is certain that the mortality rate is lower than it was ten years ago and a large credit is due Drs. Rowntree and Geraghty's study of color elimination in its relation to renal competency, for the improvement.

Before this work appeared many of us knew the wisdom of preliminary drainage but now we have a measure of the time necessary for this. Until some better method is made applicable, no prostatectomy should be done without testing the capacity of the kidneys for color elimination, using some chemical at least as reliable as phenolsulphonaphthalein. By this intelligent delay many cases can be transferred from the desperate to the reasonably safe class of risks and those truly inoperable can obtain some measure of relief from their misery.

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## A NOTE ON PERI-RENAL AND PERI-URETERAL TUMORS

BY C. A. HAMANN, M.D., Cleveland.

**T**UMORS originating in the retroperitoneal tissues, independently of the organs there situated, are among the unusual forms of abdominal neoplasms, and when they are encountered at operations they come as surprises to the operator as a rule, for preoperative recognition of the exact position, origin and relation of the growth is very difficult, indeed, generally impossible.

Histologically these growths differ widely; in other words, there are many different kinds. Among them are sarcomata, which are, I believe, the most common; fibromata, myxoma, mes-

enteric cysts, lipomata, and various combinations of the above. Enlarged lymph glands, as a part of a general process, such as leukemia, Hodgkin's Disease, and tuberculosis, are not included in the group of tumors at present under discussion.

On several occasions I have found inoperable sarcomata in the retro-peritoneal tissue. Of removable growths, I have encountered one mesenteric cyst, one cystic growth, originating perhaps from remains of the Wolffian body, and the two cases to be mentioned later, viz., peri-renal and peri-ureteral lipomata, which are the especial subject for consideration in this paper.

According to Kelly, the first writer who gave an extensive report on peri-renal tumors was Mankiewitz (*These de Paris*, 1887).

Rambaud, in 1904, collected 102 cases from the literature, and Adami, in 1896, collected reports of 41 cases of retro-peritoneal lipoma. It has been stated that from one-third to one-half of these retro-peritoneal lipomata arise from the perinephritic fat and the others are either of mesenteric origin or the source is unknown; they may reach very great size, one of 60 lbs. weight having been reported. Reynolds, in 1896, described a very extensive lipoma, which invested both kidneys.

Peri-renal tumors may be subdivided into two groups, the solid and the cystic. The most common cystic growth is an encapsuled peri-renal hematoma (Kelly). Some of the cysts are hydatids, others probably develop from portions of the Wolffian body or duct. They have thin walls, lined by epithelium.

The treatment of cysts consists in exposing them through a lumbar incision, and, if possible, shelling them out; if this cannot be done, they are to be incised, the cavity swabbed out with iodine, and packed.

The solid peri-renal growths are usually made up of several kinds of tissue. Hartman and Cuneo, quoted by Kelly, found that of 33 tumors, 6 were lipomata, 4 fibro-lipomata, 9 fibro-myxolipomata, 2 fibromata, 3 fibro-myomata, 5 fibro-sarcomata, 2 angiosarcomata, and 2 mixed tumors.

They are most common in adults, and with the exception of sarcomata do not invade the substance of the kidney, though, as in my case, they may change its form and cause pressure atrophy.

Clinically these tumors manifest themselves as slowly growing neoplasms (except the sarcomata), producing for some time at any rate no local or constitutional signs beyond the enlarge-

ment; fatty tumors may present pseudo-fluctuation; pain may be present, and it is said varicocele may occur.

Concerning diagnosis but little can be said, for they can scarcely be differentiated from renal tumors, hydronephrosis and other forms of tumor; they have also been diagnosed as ovarian cysts, and as a matter of fact they can practically never be correctly diagnosed before operation.

Removal is of course indicated, and with the exception of the sarcomata this is generally feasible, either through an anterior or a lumbar incision.

Needless to say, the kidney should not be extirpated with the growth, though in some cases it will be necessary to do so in order to effect complete removal or because of injury to the substance of the organ or of interference with its vessels or the ureter.

An important consideration in the operation is the avoidance of injury to the intestinal vessels, and the intestine itself; the anterior incision is therefore better than the lumbar, for it affords a much better opportunity for careful separation and dissection.

It is said that there is a tendency to recurrence of the benign tumors after removal.

I wish to report two cases, which will illustrate the subject of peri-renal and peri-ureteral tumors:

Mrs. W., aet. 68, had an abdominal tumor which occupied the umbilical and left lumbar region; it did not seem to be connected with any of the organs, and no diagnosis was made prior to operation. A left rectus incision was made and a fatty tumor, lying below the kidney and behind the peritoneum, was found; it was about 6 inches in diameter and shelled out easily. While freeing it, it was noticed that a tubular structure passed right through the center of it; this tubular structure was either a vein or the ureter. Fully recognizing that it might be the latter, it was tied off above and below the growth and the fatty mass was removed. Several smaller lipomata lying near it were also shelled out and the wound closed.

She recovered from the operation, though in the course of a week there was considerable abdominal pain and before she left the hospital a swelling was noticed at the site of the former tumor.

One month after the operation she again presented herself with a large, painful cystic swelling in the region of the left kidney; there was no fever.

Appreciating that the ureter had been tied off, and that now there was a collection of urine in the kidney or its pelvis, a lumbar incision was made and a sac, 5 or 6 inches in diameter, containing urine, was emptied. Part of the sac wall was removed, and the remainder was swabbed out with carbolic acid, and packed. Then the kidney was removed; it was not diseased nor was the pelvis dilated. She recovered in the course of several weeks, the cavity filling up and closing. At the present time, 20 months after the operation, she is well.

Mr. H., aet. 61, had a mass in the right side for at least two years, possibly longer; he had been losing weight during the past few months; there was no pain, no hematuria.

Upon examination there was found a large, rather hard tumor in the right lumbar region, not adherent to the abdominal wall, moving a little with respiration; it was not continuous with the liver. The growth extended to the anterior superior spine of the ileum, and beyond the median line. In other words, the growth corresponded in position to the right kidney. There was no free fluid in the abdomen. The urine contained a trace of albumin, no blood. There was nothing else abnormal found upon physical examination. A diagnosis of tumor of the kidney was made.

Through a right rectus incision the growth was exposed and was found to be a lipoma surrounding the kidney about 8 x 4 inches in its dimensions. It was shelled out without much difficulty, though in freeing it the kidney was much displaced, and its capsule torn, so it was thought best to remove it with the tumor; it would have been possible to leave the kidney, however.

After the operation he seemed to be getting along pretty well, except that for a couple of days there was almost complete suppression of urine. On the third and fourth days he was passing an abundance of urine. However, on the sixth day his condition became worse and death occurred, apparently from edema of the lungs.

Doctor Wahl's report upon the examination of the tumor is as follows:

"The tumor is a mixed fibroma and myxoma. Some portions contained scattered fat cells. There is also some infiltration with plasma cells and lymphocytes, with a few pus cells.

"The kidney shows pressure atrophy of the outer part of the cortex. Some interstitial hemorrhage (traumatic). Tubular epithelium swollen and degenerated."



# MISCELLANEOUS ABSTRACTS

## PYELOCYSTITIS IN INFANCY.

According to S. Wideröe (*Tidsskrift; for den Norsk Laegeforening*) there is little uniformity in the symptoms of pyelocystitis in infancy. They vary with the child's age, and according as the disease is primary or secondary. Before the age of two years local symptoms are seldom marked, and may even be wanting altogether. There is usually high fever, which may be continuous or intermittent, a temperature of  $98.6^{\circ}$  in the morning, rising to  $104^{\circ}$  in the evening. At first the child is restless, but the appetite is good, the general condition appears satisfactory, and there is no tenderness over the kidneys or bladder. In a few days, however, the face is pale and drawn, and anorexia is accompanied by rigidity of the neck and spine suggestive of meningitis. The lips are dry and the tongue is coated. At this stage enlargement and tenderness of the kidneys may be demonstrated unless rigidity of the abdominal wall prevents deep palpation. The urine is usually acid and turbid; it usually contains a trace of albumin, and the microscope shows leucocytes and bacteria. Frequent examination of the urine is necessary, for two or three specimens may be practically clear, and a fourth may contain much pus. In such cases the ureter on the affected side has probably been obstructed temporarily. After the age of 3 years, local symptoms are more prominent, and dysuria is often accompanied by tenderness over the symphysis and kidneys. Even at this age, however, the symptoms may be general rather than local, and may be confused with those of typhoid fever, septicemia, or tuberculosis. The difficulties of diagnosis are illustrated by the following case of a female child admitted to hospital with the diagnosis of rickets. The pulse was 96, and the temperature was  $98.2^{\circ}$ . There was no edema or rash, the heart and lungs were normal, and the abdomen was flaccid. Both tibiae were distorted, and there was a rickety rosary. After three weeks in the hospital the patient was irritable and emaciated. There was no cough, and the thoracic organs were normal, but the temperature was  $103.4^{\circ}$  in the evenings. The turbid, alkaline, and offensive urine contained pus, albumin, and the colon bacillus. A vaccine was prepared from the urine, and injected subcutaneously, the first dose of 25 million bacilli being followed a week later by a dose of 60 million. Six days later 200 million were given; and a week later a fourth injection of 250 million was given.

Nine injections were given altogether, a violent local and general reaction being invariably provoked. Three days after the

last injection the temperature was normal. About six weeks after the beginning of this treatment the general condition was much improved, and the patient was quieter and less irritable. The urine was acid, clear, and sterile. The disease, when secondary, is often a sequel to measles and diseases of the respiratory and digestive tract. Not infrequently the fever may persist after other signs of a bronchitis or pneumonia have disappeared. Tuberculosis is now often suspected, particularly when the symptoms are sub-acute, the temperature is not higher than  $100.4^{\circ}$ , and the general condition is fairly satisfactory. The urine may be almost clear, but the microscope shows a few leucocytes and bacteria. In severe cases the patient dies of pyonephrosis, meningitis, or pyemia after a week's illness. But the disease may also last for years and scarcely provoke a symptom. Relapses are common, and may be induced by a sore throat or a cold in the head. The disease is four times commoner in girls than in boys—a ratio probably dependent on anatomical differences in the sexes. Staphylococci, streptococci, and other organisms may be responsible as well as the colon bacillus. The latter is the most common cause, and when present indicates a relatively favorable prognosis. The prognosis is worse when the child has previously been weakly and underfed. The author considers that vaccines are useful when pushed vigorously, and that they are of special use in obstinate cases showing no improvement under treatment with salol. He admits, however, that the verdict in favor of vaccines is not unanimous.

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### CONJUGAL SYPHILIS AND PARESIS

Robert H. Haskell, Ann Arbor, Mich. (*J. A. M. A.*), taking the material observed at the Psychiatric Clinic of the University of Michigan, gives a study of fifty-five cases of general paresis in married individuals coming under treatment during the past three years, in which they have been able to test the presence of syphilitic infection in the other mate, and secondly, eighty-six cases in which the anamnesis concerning intimate family matters of absolute sterility, pregnancies with early abortions, total number of living-born children, with additional abortions, miscarriages, etc., could be accepted without question. They found that in forty-nine cases in which the husband was paretic, seventeen wives were infected with syphilis, and in six cases in which the patients were women, four husbands were likewise infected. Only two of the infected mates had any previous knowledge of the infection,

or could tell of any suspicious sign. Only one of them had had any antisyphilitic treatment. While the number of cases is small, since they are taken as they came, over a space of three years, and agree largely with the results of other investigators along this line, Haskell thinks the following conclusions justified: "The large number of 38.18 per cent. of conjugal mates of parietic patients is shown to be infected with syphilis. In most of these mates the condition courses unrecognized as lues latens. A pitifully small number of them ever receive treatment. The proportion of these infected mates who later develop paresis appears to be higher than those who receive their infection from non-metasyphilitic sources. The number of completely sterile marriages in syphilitic families in which one individual later develops paresis is abnormally high, constituting 32.5 per cent. This percentage is higher when it is the female that later becomes a parietic. The number of marriages in which repeated pregnancies result only in abortions is likewise abnormally high, constituting in our series 12.7 per cent. Of our series of eighty-six marriages, 45.3 per cent. were absolutely childless. Among 167 pregnancies there were forty-two abortions, miscarriages and stillbirths. Among 123 living-born children, twenty had already died before their eleventh year. The number of living children per family is abnormally small. A large number, in some investigations reaching as high as 25 per cent., of these children are actively syphilitic. An equally large additional number show signs of degenerative conformation and psychopathic tendencies without a positive Wassermann reaction. Much of all this is preventable."

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#### TUBERCLE BACILLI IN THE URINE

Lawrason Brown, of Saranac Lake, N. Y., in discussing the significance of tubercle bacilli in the urine (*J. A. M. A.*) begins with consideration of the other acid-fast bacilli from a diagnostic point of view. The cold blooded tubercle bacilli, while possibly slightly infectious for men, can be disregarded in most patients, and lepra bacilli and acid-fast streptothrices play only a small part in the human pathology. The occurrence of milk and butter bacilli and timothy hay bacilli should be borne in mind in diagnosis but their occurrence in the bladder must be rare. Of all the organisms, the smegma bacillus is the most important in diagnosis from the tubercle bacillus. Young and Churchman believe that thorough

cleansing of the penis and rinsing with large quantities of water together with careful irrigation of the anterior urethra, using three glasses for reception of the urine and using only the third for the search for tubercle bacilli, will exclude the smegma bacillus and alcohol and acid-fast bacillus and the third glass may be considered as tuberculous. Petroff and Brown have found that the so-called smegma bacilli which grow longitudinally cannot resist treatment with normal sodium hydroxid (4 per cent. solution) for fifteen minutes, which procedure affects tubercle bacilli very little, if at all. Of course, until the satisfactory method for cultivating the true smegma bacillus has been discovered it is useless to base any diagnostic methods on a procedure which depends on their growth, but Petroff's new "egg-meat-juice-gentian-violet" medium will enable us to grow tubercle bacilli readily. If at the end of ten days or two weeks no growth takes place in a tube inoculated with a sediment containing acid-fast bacilli, we are almost justified in excluding the tubercle organism. This point is emphasized.

A more satisfactory method of finding tubercle bacilli in urine is probably that of Petroff, and is as follows: "Add to the urine to be examined, which has been acidified with 30 per cent. acetic acid, 2 per cent. of its volume of a 5 per cent. solution of tannic acid. This urine is then put in the ice chest for twenty-four hours. The precipitate can then be centrifugalized, redissolved with dilute acetic acid, centrifugalized and the sediment placed on slides and stained, or the first precipitate treated with normal NaOH and cultivated."

A simple method that may aid in diagnosis is to place the bacilli to be stained on the same slide with a few typical tubercle bacilli which have been immersed in urine and the two smears be subjected to the same method of decolorization. If the questionable bacilli are decolorized when the control still retains the third stain, it is presumptive evidence that they are not tubercle bacilli. Brown admits a possible loss of faith in animal inoculation experiments in the diagnosis and mentions a case which has apparently shaken his belief. Many other points of interest in regard to the diagnosis of tubercle bacilli in the urine are mentioned and in regard to treatment he believes it impossible to give tuberculous kidneys functional rest, and it seems to him, he says, theoretically, that renal tuberculosis of any degree should be treated by nephrectomy. After nephrectomy, tuberculin is of great value.

In conclusion Brown says, "1. No staining method differentiates absolutely tubercle bacilli from smegma bacilli, but cultural methods may aid greatly. 2. Animal inoculation, with the production of tuberculosis, is an absolute test, but of value only when positive. 3. The same care about the collection of urines should be exercised as about the collection of sputum. 4. Tubercle bacilli can be excreted through apparently normal kidneys. 5. Radiography may aid in the quick detection of caseous foci when the urine contains no tubercle bacilli. 6. Spontaneous healing is often fictitious. 7. The final, and often the best treatment for renal tuberculosis on diagnosis is nephrectomy, followed by the use of tuberculin. 8. Tubercle bacilli occur in the urine in genital tuberculosis usually late in the disease and are consequently of little aid in diagnosis of the condition."

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#### CYSTOSCOPY AND URETHROSCOPY FOR GENERAL PRACTITIONERS.

Bransford Lewis, B.S., M.D., F. A. C. S., Professor of Genito-Urinary Surgery, Medical Department of St. Louis University, St. Louis, Mo.; Genito-Urinary Surgeon to St. John's Hospital, etc., and Ernest G. Mark, A.B., M.D., F. A. C. S., Professor of Genito-Urinary and Venereal Diseases in the University Medical College, Kansas City, Mo., etc., with a chapter by William F. Braasch, M.D., Attending Physician to the Mayo Clinic, Rochester, Minn., with 113 illustrations, 23 in colors. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. Price, \$4.50.

The authors of this excellent work have portrayed the latest technique of cystoscopy and urethroscopy so graphically, by both text and illustration, that the book will prove of real value to the beginner in this line, as well as of advantage to the experienced who may be interested in studying the methods of others. The steps and phases of cystoscopy, ureteral catheterization and urethroscopy are depicted from every angle, so that the student can hardly escape a fair understanding of these, even if he does no more than follow and study the admirable illustrations.

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#### EDITORIAL NOTE

The usual Review of Current European Literature is omitted this month owing to non-receipt of foreign journals on account of the war.



# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

VOL IX

JUNE, 1915.

No. 6.

FOR THE AMERICAN JOURNAL OF UROLOGY.

## FOREIGN BODIES IN THE BLADDER. A REMARKABLE CASE

BY ALEJANDRO NOGUIERA, M. D.

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Montevideo, Uruguay.*

*History of the case.* Four year old girl. No pathological antecedents of any importance; six months ago the child was affected with polyuria, the passing of urine being accompanied by a burning sensation localized in the genital parts and the hypogastric region; urine cloudy, with some bloody shreds; from the beginning of the trouble the patient tried to hide herself when obliged to urinate; between passages she didn't seem to feel any pain and played the games of her age. Four months ago she passed a whitish calculus the size of a grain of corn; at that time her urine became more turbid and contained bloody shreds; after that development her condition seemed improved for several months.

In the last two months polyuria has increased; the passing of urine is accompanied by rectal tenesmus with expulsion of fecal matter without blood or mucosity; the concomitant pains which are not more intense seem to be localized in the rectum instead of the hypogastric region; bodily motions cause no pain whatever; incontinence of urine at night is frequent; a slight loss of flesh is observable.

*Examination.* The general condition of the child is good; exterior examination only reveals a painful sensation in the hypogastrium. Urine cloudy and turbid; the sediment contains many globules of pus and a few red globules, crystals of ammonio magnesium phosphate and a few bacteria.

These data logically lead one to suspect the presence of a septic vesical calculus.

Neither Guyon's bougie nor cystoscopy nor vaginal palpation can be used in this case; the patient's age and especially the convulsive motions revealing the trouble would make general anesthesia imperative before attempting that sort of examination. Before resorting to anesthesia I decided to attempt diagnosis by means of radioscopy, an excellent method of examination in such cases as this and which is not used often enough.

To my great surprise and that of the patient's mother, the remarkable radiograph taken by Dr. Garabelli revealed the presence in the child's bladder of a hair pin located approximately along the vertical diameter of that organ, the deviation from that line being about 30 degrees; the foreign body was  $6\frac{1}{2}$  cm. in length; the middle of the object was covered by a whitish spot with a very definite outline,  $2\frac{1}{2}$  cm. in vertical diameter, corresponding probably to a phosphatic calculus which formed around the hair pin; the points of the pin seemed to rest against the wall of the bladder in the immediate neighborhood of the internal orifice and to project themselves for 1 cm. over the symphysis pubis.

A new hypogastric palpation revealed no induration whatever; the child only contracted her rectus muscle in an attempt to protect herself against the pain caused by the pressure of the hand. The mother asked that the operation be postponed for a few days; I then prescribed absolute rest to avoid a perforation of the walls of the bladder or the possible bursting of a pericystitic abscess of which fortunately there were no indications at the time.

The day before the operation, ten days after the first radiographic examination, a new radiograph showed the foreign body occupying exactly the same position, along the transverse diameter of the pelvis; one could see with some difficulty through the iliac bone the hair pin lodged vertically, clear of a vertical plane cutting the posterior face of the pubis and on the same level as in the previous examination.

I concluded therefore that the pin adhered to the bladder and was imbedded at both ends in the vesical wall; hence the perfect concordance of the radiograph taken on two different occasions. How did that foreign body enter the bladder? The child pretended not to know anything about it; just before the operation, however, she confessed to her mother that another little girl of her own age had introduced it into her vagina while playing at "taking injections;" she had concealed the accident for fear of being punished.

Operation. May 20, 1913. Anesthesia by chloroform; vesical injection with olivary bougie No 12, which encounters the calculus; the bladder only holds 60 cc. Longitudinal suprapubic cystotomy; no pericystitis; the bladder which in the first years is a purely abdominal organ is exposed by separating the rectus muscles and detaching the prevesical adipose tissue; the bladder had been partly emptied and through its walls I can feel the calculus and the hairpin; I resect the peritoneum until the anterior wall of the organ is well exposed, perform on its



vertex an incision of 3 cm. With a pair of Kocher forceps I seize one side of the pin while I introduce the index of my left hand into the cavity and push the apex of the bladder upward so as to free the round end of the hairpin imbedded in the wall of the bladder and likely to perforate it in the direction of the peritoneal cavity; with the help of the forceps and owing to the fact that the incision is made as high as possible I succeed after a few swinging motions in freeing the upper end of the hair pin and extracting it together with the calculus.

The vesical mucosa appears congested and bruised toward the trigone; at the apex, the wall, somewhat indurated, retains the depression caused by the foreign body, which shows how easily the wall could have been perforated.

Suture of the bladder in two places with two stitches of catgut, leaving free the opening of the suprapubic drain.

*Postoperative Treatment.* Daily injections of 1/1000 solution protargol; after the sixth day the upper drain is removed and Malicot bougie No. 16 introduced into the urethra; the tenth day the vesical wound is closed, the urine is clear and the injections are discontinued; the 20th day the cutaneous wound is cicatrized; the bougie is removed; painless micturition every two or three hours; urine limpid; sediment contains a few leucocytes. Recovery complete.

*Foreign Body.* The hairpin is  $5\frac{1}{2}$  cm. long; at its elbow, which was probably introduced, the interval between the sides is half a centimeter; the size of the phosphatic calculus which settled on its middle is 2.4 cm. at its largest and 2 cm. at its smallest diameter.

The illustration represents the foreign body in almost its exact size. This case suggests a few interesting reflections on the conditions which accompany the introduction of foreign bodies into the bladder, the clinical peculiarities of such cases and the appropriate treatment.

The bladder tolerates foreign bodies with surprising ease; it would take up too much space to enumerate the various objects which have been found in the vesical cavity, some with sharp ends, for instance needles, which occupy a prominent place in that curious list. Extraordinary as the case may appear I cannot refrain from mentioning the report read by Hogge (1) at the 16th session of the French Urological Association on a woman who in the course of one year had introduced ten different objects, among others three safety pins, into her bladder; the morbid element represented by the patient's moral degradation must not be overlooked when it comes to explaining the relative anesthesia of the bladder and the lack of shame with which the woman asked her physician to remove the objects employed in that curious form of gratification.

Piqué (3) cites the case of a newly married woman who suffered pains during the act of coitus; the pains were due to the presence in her bladder of a pencil holder 11 cm. long coupled with a calculus the size of a hen's egg; the foreign body had been tolerated for several months. The same cause aggravated by occlusion revealed in the bladder of a 20 year old woman the presence of a hairpin introduced therein two years before the examination took place. (Pousson) (4)

When we remember that a pencilholder could have remained ten years in one bladder and a bougie seventeen years in another

(cases cited by Steinetz) we must conclude that the bladder, rather rebellious in the first moments following the intromission of foreign objects, ends by tolerating them, perhaps because those bodies become immobilized. The same gradual toleration has also been observed in cases of vesical calculus; a thesis has been written on that subject by Aubiban (2).

There is no doubt but the patients conceal the suffering due to such causes. The little girl I treated did not, but I must say that she only suffered during micturition: at other times the child didn't complain of any pain and didn't avoid any motions or refrain from playing. We must then admit that vesical toleration is quite extraordinary, since it enables the organism to stand for several months with hardly any pain a hairpin imbedded at both ends in the vesical walls and in a fair way to perforate them.

The case under my observation was of especial interest, however, on account of the patient's age: for it is the practice of masturbation which in the majority of cases causes hairpins to be introduced into the bladder; it is very seldom that such an accident takes place in girls of my patient's age, although masturbation has been observed in the tenderest years of infancy. In this case the explanation given by the patient was plausible; for my observation of her during the whole course of the case did not lead me to assume that she had ever indulged in masturbation.

In the whole literature of the subject I only find five cases of foreign bodies introduced into the bladder of very young children: Chopart (5) in his book on the diseases of the bladder published in 1792 cites the case of a four year old girl who passed through the urethra an oval calculus weighing half an ounce and containing a needle an inch long. She had been troubled with pains in the bladder from the age of two. Froelich (6), to extract with a hemostatic forceps a hairpin introduced into the urethra, had to perforate the urethrovaginal wall with one of the points of the hairpin.

Rocher (7) after fruitless attempts at extracting with a "crochet de Guyon" a hairpin which had been for four years in the bladder of a five and a half year old girl, removed it by performing a hypogastric incision.

Vincent (8) with the help of cystoscopy and radiography located in the bladder of a nine year old girl two hairpins which had been introduced four years before; he removed them by hypogastric incision.



Albarran (9) extracted by hypogastric incision a hairpin and a phosphatic calculus the size of a nut which had remained two years in the bladder of a little girl four years old at the time of the operation. Albarran attributed the introduction of that hairpin to the practice of masturbation.

Foreign bodies of certain dimensions assume in the bladder definite positions which it is important to know, for such knowledge will facilitate their removal especially if that removal is performed through the urethra.

Long and rigid objects whose length is not over 10 or 12 cm. or under 6 or 8 cm. locate themselves along the major vesical diameter, that is the transverse diameter (law of Guyon-Henriot) (10, 11 and 12).

If the foreign body is over 12 cm. in length, and in particular if its extremities are sharp, it retains in the bladder the position it occupied when introduced, that is a vertical position, slanting more or less according to the quantity of urine contained in the organ, but with its sharp end embedded in the extremity of the vesical cervix.

Softs objects assume all sorts of positions, some folding themselves or curling up at the bottom of the bladder (for instance filiform catheters and bougies). Small objects rest at the bottom of the bladder with the exception of those whose gravity is inferior to the gravity of urine and which float near the apex (pieces of stearin, etc.).

In children these positions are modified by anatomical peculiarities and by the dimensions of the bladder.

Mayet (13) has observed that until the age of seven or eight the bladder is an abdominal rather than a pelvic organ, which points to its allantoidic origin: the cervix is then on an imaginary horizontal plane cutting the upper end of the pubis: its major diameter is its vertical diameter: it is only after the seventh or eighth year that, owing to the development of the pelvis, the bladder settles on the pelvic floor, flattening itself in the process, the vertical diameter then becoming inferior to the transverse diameter.

Keeping in mind these anatomical details and the dimensions of the organ, we conclude that in very young girls a hairpin 6 or 7 cm. in length, introduced through the urethra, whose axis is almost vertical, would retain its vertical position in the bladder, regardless of the amount of urine it contained, except of course in case of excessive distension: its length and its rigidity

would tend to maintain it in the same position and also its sharp points imbedded in the neighborhood of the vesical cervix; the bent part, the least dangerous which was introduced first, continues to point towards the vesical apex.

A mere mention of these details, which are easily confirmed by radiography and cystoscopy (we are only speaking of cases of very young children), is enough to show the danger of an extraction performed through the urethra (viz the cases mentioned above) and to indicate clearly the necessity of resorting to a hypogastric incision.

The facility with which foreign bodies can penetrate the bladder of a girl is due to the shortness of the urethra (2 cm. at the most), to its elasticity and to the insignificant resistance presented by the vesical sphincter. As soon as the presence of a foreign body is suspected in the bladder of a girl, the diagnosis should first of all be confirmed by a radiographic examination. Such radiographs are very clear, for the tissues which the X rays must traverse are of moderate thickness and density. The best evidence of this is the remarkable radiograph taken by Dr. Garabelli. All the necessary data as to the position of the foreign body, its size, the presence or absence of accretions are revealed accurately by a radiographic examination and those details are absolutely necessary to know before we decide what technique is to be followed in extracting the object.

This form of diagnosis is the more valuable as cystoscopy and the Guyon bougie, indispensable and for which there is no substitute in examining adults, are very inconvenient to use in the case of children and require general anesthesia.

There occur even in adults cases where vesical inflammation makes cystoscopy impracticable and when one must rely for a diagnosis upon radiography exclusively. Thus Desfosses found instead of the calculus he had diagnosed an incrustated hairpin; Mannonry, unable to break up entirely with a lithotrite a vesical calculus, found on a radiograph the explanation of that unexpected difficulty: there was a needle incrustated in the calculus. Abadie and Gagnère in the case of an eighteen year old girl when the catheter could not be resorted to, diagnosed by means of a radiograph the presence of a hairpin with a secondary calculus.

Legueu (14) in his recent book on the radiographic exploration of the urinary tract closes the paragraph relative to foreign bodies with the following words:

“In the case of bodies introduced recently cystoscopy is

practicable, and when radiography is useless; when the bodies have sojourned a certain time in the bladder, if cystoscopy is impossible, radiography is imperative; but even when cystoscopy is possible, it is always preferable to supplement it with a radiographic examination so as not to mistake a foreign body covered with a phosphatic deposit for an ordinary calculus. We know how little importance one should attach in such cases to the information supplied by the patients themselves."

This doesn't apply to all vesical calculi but to those present in the bladder of women, especially at the age when such extraneous bodies are frequently found in their bladders.

In cases such as the one which came under my personal observation the best procedure for extracting the extraneous body is to perform a hypogastric incision. The presence of an object with sharp ends should proscribe absolutely the use of the lithotrite which, while breaking up the calculus, moves blindly about the bladder the extraneous body whose points may perforate the vesical walls. Extraction through the urethra without cystoscopy, even when there is no calculus present, is impossible or very dangerous on account of the positions assumed by the object and which are mentioned in one of the preceding paragraphs; the cases cited by Froelich and Picqué are the best evidence against that operation method.

When objects have been freshly introduced into the bladder of an adult and are still mobile, extraction can be performed with the help of the cystoscope. The method, however, is impracticable in the case of children because cystoscopy presents too many difficulties and because the foreign bodies become immobile, being unable to displace themselves in such a narrow cavity.

It is then imperative to open the bladder; a vaginal incision is not practicable on a child; neither is a perineal incision; we must then have recourse to suprapubic incision, either longitudinal or transverse, preferably longitudinal, so as to reach the vesical apex in which one of the ends of the hairpin lodges itself and which is more easily reached by detaching partly the peritoneum. Unusual care and gentleness are necessary in extracting the pin; we must not forget that the vesical walls may have been seriously damaged by the extraneous object; finally we must be guided in our intervention by the accurate data furnished by radiography.

## BIBLIOGRAPHY

1. Hogge. 16ème session de l'Association Française d'Urologie, 1913, p. 682.
2. Aubiban. Tolérance inégale des calculs de la vessie. Th. de Toulouse, 1912.
3. Picqué. 10ème session de l'Association Française d'Urologie, 1897, p. 331.
4. Pousson. 11ème session de l'Association Française d'Urologie, 1898, p. 579.
5. Chopart. Maladies de la vessie, 1792, p. 329.
6. Froelich. Chirurgie des enfants, 1905, p. 45 & 46.
7. Rocher. Journal Médical de Bordeaux, June 26, 1904.
8. Vincent. 16ème session de l'Association Française d'Urologie, p. 685.
9. Albarran. Société de Chirurgie de Paris. Session du 14 octobre 1913.
10. Guyon. Leçons cliniques sur les maladies de la vessie.
11. Henriot. Annales Génito-Urinaires, 1884 & 1885.
12. Guyon. Corps étrangers de l'urètre et de la vessie. Annales Génito-Urinaires, 1895, p. 108.
13. Mayet. Thèse de Paris, 1897.
14. Legueu. Exploration radiographique de l'appareil urinaire, 1913, p. 217.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

## NOTES ON CERTAIN MODES OF CONTAGION OF THE SYPHILITIC CHANCRE AND ON INDIVIDUAL PROPHYLAXIS OF SYPHILIS.

BY F. BALZER AND R. BARTHELEMY.

The penetration of the spirochete into the tissues can take place by one of several methods. A study of these is of great value as regards the prophylaxis of syphilitic infection.

A.—In the first place it is admitted that the syphilitic contagion ordinarily invades the organism by direct inoculation. The integument being injured by puncture, section, or erosion, the spirochete is thus directly introduced into the skin by the infecting trauma. Accordingly it is in cases of direct inoculation that the chancre makes its appearance earliest. Notwithstanding the fact that it took twenty-five days to appear in the case of Bargioni (inoculated with his consent by Pallanzani, see Fournier's "Traité de la Syphilis."), where by the way there was no intra-dermal inoculation, it generally makes its appearance much earlier in these cases than in syphilis otherwise acquired. In one unusual case on record of syphilis transmitted during shaving, there was an interval of but eight days before the appearance of the chancre.

We believe that this unusual precocity can be explained by the immediate proliferation of the spirochetes in the skin, the period required for their penetration through the dermal layer having been suppressed. This mode of direct syphilitic inoculation comes into play, of course, in all cases where the spirochete comes

in contact with a point of solution of continuity no matter how apparently insignificant the latter may be.

B.—A second and less common mode of transmission of syphilis occurs after the deposition of the morbid agent upon the unbroken skin. It is of course difficult to prove the absolute integrity of the skin, the complete absence of a slight traumatism, but we wish to point out that the longer incubation periods would correspond well with this type of inoculation. Thus we may conceive of cases where the spirochetes are deposited during intercourse, for example, in a fold of mucosa such as the balano-preputial groove where the moisture and temperature favor their attachment to the epithelium and their multiplication as well. Little by little as the organisms proliferate, they pierce the epidermis and reach the stratum corneum and the cutis vera where they provoke the reaction of the chancre. Also in certain naturally moist regions of the skin, such as the umbilicus and the inguino-scrotal fold, the spirochetes may find the same opportunities for prolonged survival and for consecutive penetration, owing to the maceration of the epidermis.

It is obvious that this process, involving supra-epidermic incubation, intra-epidermic, and finally intra-dermic penetration, demands a space of time which is not required in the direct and immediate process of inoculation. The longer interval between the day of contagion and the appearance of the chancre can thus readily be explained for a definite group of cases.

C.—There is however a third group of cases which is even more important in our opinion. We refer to chancres of cavities resulting from the possible transportation of the spirochete after its deposition on the mucosa to some far distant locality. Many observations lead us to believe in this possibility. Thus the interrogation of several patients with chancre of the tonsil has convinced us that this localization does not invariably result from the direct introduction of a contaminating organ or object into the buccal cavity. According to the statement of these patients such an introduction never took place and the suspected contacts occurred simply at the lips. Whatever we may think of the reliability of such statements we may readily conceive that the germ of syphilis, first deposited on the lips, may be secondarily transported in the saliva through the interior of the mouth, and, aided by movements of the lips and tongue, may finally reach the pharynx. Arriving here at the tonsil it may easily become fixed and begin to multiply. The constant sweeping of the mucosa by



the saliva is reduced to a minimum in the tonsillar crypts which constitute at the same time a shelter and a good culture medium for the pathogenic agent.

Conditions simulating those of the buccal cavity also occur in other regions. It is thus that urethral chancres occur occasionally at points too far from the meatus for the primary deposition of the spirochete: the latter must obviously have come thither secondarily. In such cases moreover we must postulate not so much a transportation by the secretions of the mucous membranes, but rather a migration due to the movements of the spirochete itself.

Several years ago we saw with Dr. Despagnet, a chancre of the ocular conjunctiva situated so deep in the supro-internal conjunctival cul-de-sac and so far from the edge of the lids that it was physically impossible for the infecting contagion to take place directly at this point. Evidently the spirochete had to be transported to its point of fixation in the cul-de-sac—whether it reached the conjunctiva by its own movements, or by the movement of the lids, or through the medium of the lachrymal secretion. The chancre lay so deep that it was quite invisible until the lid was turned completely back. The same interpretation seems applicable to certain chancres of the uterine cervix.

In short, the agent of syphilis which is motile to begin with, can in addition be transported by the movements and fluids of mucous cavities, to sheltered and relatively quiet regions favorable for its fixation and proliferation. Furthermore, we believe that the spirochete *need not be immediately inoculated* in certain cases. It may live, for longer or shorter periods, at certain points on the integument and may even reach a degree of activity necessary for the penetration of the skin. In mucous cavities it may be transported secondarily to certain deeper regions where it may develop further subsequently.

Such considerations are not only of pathogenic interest but they suggest useful prophylactic deductions. In fact, keeping in mind the above facts, one can, by vigorously observing certain simple measures, effectually limit the contagion of syphilis to a certain extent. Many military surgeons have already accepted this view and in France, Italy, and the United States, unquestioned results have been obtained from the simple employment of a correct hygiene after sexual intercourse.

The use of fats has justly been praised as an excellent preventive measure. Rubbing the more exposed parts with vaseline

is a good practice. Even preferable to this, however, is the inunction of calomel ointment carried out before and especially after the suspected contact. This measure, which was recommended by Metschnikoff, has the additional value of employing a drug—mercury—capable of destroying the spirochete at once.

Methodical cleansing of the parts exposed to infection is especially to be recommended. We do not refer to a simple washing, done once, hurriedly and inefficiently as is the custom, but rather to a persistent lavage. This is to be carried out by a *prolonged* soaping with warm water, with or without the addition of 1 to 1000 bichloride, followed by lavage with a bichloride or oxycyanide of mercury solution and then by the application of 30 per cent. calomel ointment. The sooner this lavage is carried out, the greater is its value. But one should not be satisfied with a single operation of this kind. We believe, for the reasons given above, that it is essential *to repeat it daily for some time* whenever there is any question of intercourse under suspicious circumstances.

These procedures are not infallible, but the good results obtained by the military surgeons previously referred to have already demonstrated that actual practice as well as clinical and bacteriologic observations are unanimous in establishing their real prophylactic value.

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### INITIAL SYPHILOMA OF THE OCULAR ADNEXA AS A RESULT OF AN ACCIDENT WHILE AT WORK.

BY A. ANTONELLI.

To be sure, an initial lesion of the conjunctiva or of the eyelids is not a very rare occurrence. Nevertheless I should like to report this case—the patient was presented before the Société d'Ophthalmologie de Paris on June 2, last year—not only because of its interesting clinical features but especially because it illustrates an occasional cause of ocular infection, viz., an accident while at work.

M. X., mechanic, age 30, was working at a lathe in a country shop, on April 6, 1914, when a piece of metal struck him in the left eye. He put his hand to his eye at once and then proceeded to wash it at the sink, making use of a glass he found there, and which belonged apparently to one of his comrades. The following day, the eye being quite irritated, he went for

treatment to Dr. B. (I cannot give the name of the physician nor of the locality, for obvious reasons), who wrote out a certificate of traumatic conjunctivitis and instituted treatment for this condition.

On the 11th of April Dr. B. left for his Easter vacation and the patient was turned over to another country physician for treatment. Despite various applications and dressings the eye symptoms became worse, so that when Dr. B. returned about three weeks later things looked so unusual and so serious that he directed the patient to go to Paris at once for further treatment.

It was on the 14th of May, that is five weeks after the accident, that I first saw the patient. The left eye presented the appearance of a rather intense ophthalmia: the lids were red and closed by a considerable swelling; the skin was excoriated at several points by the secretion which was being shed with the tears and which agglutinated the lashes; the conjunctiva was very red and especially very chemotic over the entire bulbar aspect of the eye.

The idea of a secondary infection, perhaps specific, engrafted upon a traumatic lesion, suggested itself at once and was supported, moreover, by the presence of a palpable induration on the temporal commissure of the eyelids. This induration was felt as a cord about half a centimeter in thickness, extending for about two centimeters to merge into a sort of tumefaction of the zygomatic arch, which in turn, extended to a large, hard, and painless, preauricular gland. The left submaxillary glands were also swollen.

We at once made arrangements to obtain laboratory findings. Dr. Landrieu of Dr. Morax's service at the Lariboisière was kind enough to work up the case. On the 16th of May cultures were reported negative for mycosis and smears of the conjunctival secretion made by Burri's India ink method proved negative for spirochetes. On the other hand the Wassermann and Landau reactions, made on the 18th of May, were completely positive. We thus had the proof of a specific infection. This was further confirmed a few days later by the appearance of a roseola composed of large and confluent spots involving the whole body.

Ever since my original examination, and especially after the laboratory findings were reported, I endeavored to discover in the ocular adnexa, some trace, no matter how small, of a chancre.

My efforts were unsuccessful even though I turned back the upper lid, the conjunctiva of which was practically unchanged, and examined the entire lower lid and its cul-de-sac, especially in the region of the lymphatic induration at the external palpebral commissure. Of course one should not be excessively surprised at failing to find—at an obvious focus of recent syphilitic infection—either an erosive lesion, no matter how small, or a distinct indurated nodule representing the chancre. Thus the unusual feature of the case under discussion was just the very absence of the lesions ordinarily described in all memoirs and treatises as being characteristic of initial syphiloma of the conjunctiva or eyelids. We might have considered the possible existence of a “dwarf” chancre of the lower lid which had cicatrized rapidly and simply left a marked diffuse infiltration of the palpebral tarsus and of the palpebral and bulbar conjunctiva. Be that as it may, we feel that merely the peculiar tarsitis, the severe almost doughy chemosis, and the secondary circumscribed adenopathy were symptoms which should at once have suggested the diagnosis of syphilis.

The eyeball itself was unaffected, the cornea and the other media showing perfect transparency and ophthalmoscopic examination revealing no internal lesion. The only exception was that the pupil seemed to be slightly mydriatic (no drops were instilled) and its contraction seemed to be diminished. This was probably due to paresis of the ciliary nerves resulting from chemotic infiltration of the periorneal region. Visual acuity was normal except for a minimal impairment due to irritation and the presence of secretion.

The interesting points in the case may be summarized as follows: 1) Absence of a true chancre of the conjunctiva or of

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(1) ANTONELLI: “Syphilis and Ocular Trauma,” *Archives d’Ophthalmologie*, Sept. 1910. In this article I enumerated the cases of inoculation of syphilis by trauma of the ocular apparatus: scratch by child’s finger-nail in Dent’s observation (1883); bite wounds in the observations of Campart (1885) and Morel-Lavallée (1886); burn of the upper lid in the observation of Holmes (1887); manipulations such as the removal of foreign bodies from the conjunctival sac by means of the tongue (cases of Beck, Tepljaschir, Alexander, Dagilaiski). “But,” I added, “not a single chancre of the eye or of its adnexa has been reported so far as I know either in the ophthalmologic or medico-legal literature which can be ascribed to an infecting trauma incurred in an accident while at work. It would be difficult to prove that the specific infection was introduced by the injuring body itself; nevertheless the trauma should also be held responsible for secondary non-specific infections due to streptococci, staphylococci, etc. In any case the interpretation and the estimation of the damage would be a very difficult matter, varying according to the circumstances of the case, the consequences, etc.”

the lids despite an undoubted primary syphilitic lesion of the ocular adnexa; 2) The postulation of such a lesion supported on clinical grounds by the existence of a diffuse tarsitis, of a total and marked chemosis, and of a lymphangitis of the palpebral commissure with a secondary preauricular and sub-maxillary adenopathy.

Furthermore, this case is the first, so far as we know, of an ocular syphiloma resulting from an accident while at work. From the point of view of the law of 1898, the only connection so far established between syphilis and ocular trauma is the not infrequent occurrence in heredo-syphilitics of parenchymatous keratitis as the result of even a slight accident.<sup>1</sup> The patient whose case we have recited is undoubtedly a victim of labor, inquiry having confirmed the truth of his story, and the responsibility of his misfortune should be fixed on his employer. There is an obvious analogy, from the forensic point of view with the syphilis of glass-blowers who become contaminated at the lips while blowing through a tube with an infected orifice. The exact appreciation of the various factors, and especially the estimation of the reduction of the working capacity in order to determine the indemnity to be allotted, offer very obvious difficulties to the medical expert in cases of this kind.

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### SOME ASPECTS OF CONGENITAL SYPHILIS AFFECTING THE NERVOUS SYSTEM.

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**A**S is well known, acquired syphilis in its later stages not infrequently manifests itself by its effects on the nervous system, and inherited or congenital syphilis may do the same. Regarding this latter, I would like to call attention to some points of rather special interest that have developed in cases recently observed. The advance in the study of syphilis in the last few years, especially the Wassermann reaction on the blood, the examination of the spinal fluid, and luetin reaction, have enabled us to look deeper into our cases than was heretofore possible and the diagnosis of syphilis no longer depends on the observation of more or less characteristic mucocutaneous lesions. Syphilitic lesions, of skin, bone or internal organs, are now recognized as the effects of the spirochete *pallida*, the manifestations of which vary greatly and many



conditions are now recognized as syphilitic when formerly their etiology was either unknown or uncertain. In most instances the spirochete can be recovered from the lesions.

The case of hereditary or congenital syphilis was formerly recognized by certain, generally quite obvious, signs such as skin eruptions, snuffles, etc., and children not so affected were regarded as free of the disease. More critical observers also include certain deformities of bones, teeth, etc., as indications of hereditary syphilis, the so-called "stigmata." It was observed, however, that in many cases the children of syphilitic parents did not present these stigmata and, in the absence of other means of diagnosis, the conclusion was drawn that they were free of syphilis. I have made the observation that the same holds true of congenital syphilis as for acquired syphilis: when the central nervous system is affected the skin manifestations and ordinary signs of syphilis are often conspicuous by their absence. In these cases, however, other signs are present. I have looked carefully for all the signs which have been considered significant of syphilis and I have noted the signs present in my cases. The result is very interesting as showing that, in congenital syphilis of the nervous system, the signs present are quite different than the signs present in association with congenital lues affecting the skin or viscera. Dr. L. Findlay, of Glasgow in reporting cases of congenital syphilis causing feeble mindedness has also observed this and one of his conclusions is that "in syphilitic idiocy there may be no luetic stigmata." Dr Findlay does not relate the stigmata he looked for and I can agree with his conclusion only in so far as to say that the ordinary signs, i. e. affecting bone and connective tissue, are absent in these cases. It follows from this that to diagnose such cases by the merely routine examination of teeth, bones and skin is impossible. In fact even laboratory tests in these cases are not conclusive between the time of birth and the development of the symptoms as Grulec<sup>1</sup> has shown. The diagnosis is best made by careful consideration of all of the clinical aspects of the case.

Another point of interest in the cases reported by Findlay is that the parents of these children denied all knowledge of syphilitic infection and were apparently well. This has frequently been the case in my experience, and in a series of four recently observed cases, not only were the parents well and denied syphilis

<sup>1</sup> Use of Neosalvarsan in Mental Deficiency, Glasgow Med. Jour., Oct. 1914, p. 241.

<sup>2</sup> Amer. Jour. of Med. Sciences, Nov. 1914.

but a Wassermann reaction of the blood of both parents was reported negative, though the Wassermann reaction of the patient's blood was positive. It may be concluded, therefore, that it is practically useless in diagnosis to rely on a negative history or negative findings in the blood of the parents.

Congenital syphilis of the central nervous system manifests itself in various ways. It may be as an epilepsy, feeble-mindedness, or various paralytic phenomena of cerebral origin; or sometimes all three. I can best describe the clinical aspect of some of these cases by summarizing the findings in some recent examples taken chiefly from private practice.

#### CASE REPORTS.

Case I. A female child, age 6, first seen October 21, 1914. The parents accompanied the child and were apparently well. The paternal grandmother died at seventy years, of old age, but the other grandparents, uncles and aunts were living and well. Neurological examinations of the father and mother were negative and the Wassermann reactions on the blood of both father and mother were also negative. The first child of these parents died at the age of two weeks of convulsions. The patient was born about a month prematurely, without instruments. It was said that until she was three months old she was "yellow." For six weeks after she was born she slept almost continuously. She was breast fed until she was about two years old and always took the breast without trouble, but other food was vomited. When cutting teeth she had fever and sweats and was said to suffer frequently from "prickly heat." When about three months old she began having convulsions and had one about every two weeks until she was six months old, when she had a series of severe convulsions in which she was unconscious for three days. The patient did not develop normally after this. She did not sit up and could not sit alone at the age of six. The first words she spoke when about five years old. Examination showed that she was undersized, distinct veins were noticed in the temporal region and the head was moist with perspiration. She showed more or less continuous, choreiform movements. She could speak a few words but not distinctly. Neither eyeball rotated out as far as it should but other extra-ocular movements were normal. There was no distinct nystagmus. The pupils were a little unequal; the left was larger and reacted to light. The reaction of the right pupil was sluggish to light. Both pupils apparently reacted in accommodation.

There were frequent facial grimaces but no distinct facial palsy. The teeth were somewhat decayed, otherwise not abnormal. There was no enlargement of the thyroid. Both the arms and legs were spastic and slightly contracted. The tendon reflexes were present but difficult to obtain. Plantar irritation caused extension of the toes. Painful stimuli were well felt. In trying to grasp an object the movements of the hands were extremely ataxic. A Binet-Simon test gave a mental age of four. The ordinary stigmata of congenital lues were absent. A Wassermann reaction on the blood was positive (XXXX).

Case II. Female, age 5½ years, first seen October 18, 1914. The father and mother, who accompanied the child, were well and denied all knowledge of specific infection. The grandparents, uncles and aunts were living and well. There was no history of paralysis or insanity in the family. The Wassermann reaction on the mother's blood was negative and an examination of the father's blood was also negative. The father's ears were examined by Dr. Canfield, and his eyes by Dr. Slocum, and no signs of syphilis found. The patient was an only child and there was no history of miscarriages; she was born about eighteen months after the marriage of her parents. The birth was assisted with instruments but no distinct traumatism was noticed. The child was about a month premature, weight six and a half pounds at birth, and showed some jaundice for about three weeks. She was well except for some digestive disturbance until five and a half months of age when she had convulsions which lasted all day. Treatment was with hot baths and in the stupor following the convulsions she was thought to be dead. By the next day, she had recovered consciousness and seemed to be about the same as before. It was not until three or four months afterwards that it was noticed that she was not sitting up and not using her arms and legs as a normal child should. She did not talk as early as she should, not till the third year. She was sixteen months old when she cut her first teeth. She had no sores nor eruptions on her body. She was not able to stand on her feet until she was five years old and now can only stand with support. She began saying only simple syllables at three years, could repeat the alphabet at four. The patient's father said that her arms had apparently not improved any in usefulness since she was a baby. There was no evidence of pain at any time, no screaming in her sleep. He said that the child was completely relaxed in sleep. The child was fairly well nourished. She could not stand or

walk unless held. There was apparent difficulty in looking where she wished which seemed to be due to an ataxia of the eyeball. There was also an ataxia in moving the head. The pupils were somewhat dilated but equal. It could not be determined that they reacted to light and the ocular fundi were not examined. Speech was monosyllabic, also seemed ataxic and was very difficult to understand. The ears were malformed on both sides. There was no scars about the body. The neck was thick and the neck muscles well developed; this was apparently the result of spasmodic torticollis. She had all the first teeth. She was perspiring freely and there was a history of profuse skin eruption called "prickly heat." All four extremities were slightly spastic but more markedly ataxic. The gait was spastic ataxic and was cross legged. All movements were distinctly ataxic and there was constant choreiform movements of the face and extremities. The Wassermann reaction on the blood was positive.

It will be noted that these two cases are almost exactly alike even in details.

Case III. Female, age 11, first seen July, 1914. The father and mother, who accompanied the child, were both well and denied syphilitic infection. The patient was an only child but the mother had had two miscarriages after, and one before this child was born. The mother says that the patient was noticed to be awkward when she first tried to sit up. She was over three years old before she was able to walk and she was two years old before she was able to talk. She had never had convulsions. There was no history of any nervous or mental disease in the family and the Wassermann reaction on the blood of the father and mother were negative. The patient's gait seemed to be awkward and the awkwardness was made somewhat worse by closing the eyes. She replied to questions promptly and was apparently of about normal mentality. She generally held her head considerably retracted. The sternocleidomastoid muscles on both sides were very prominent. There were occasional slow movements of the head; the movements of the extremities were like athetoid movements. Nothing decidedly abnormal in the shape or size of the head was noted. There were some enlarged post-cervical glands. The pupils were equal and they both reacted to light but the left was decidedly sluggish. There was marked difficulty in controlling the eye movements, and in looking to either the right or the left there developed a wide nystagmus. There was no enlargement of the thyroid. There was no paralysis of the

face or tongue. In showing the tongue or drawing back the corners of the mouth there was an exaggeration of the bending back of the head. There was no atrophy or deformity of the arms or hands. The biceps and triceps reflexes were present but diminished on both sides. The patient seemed to have considerable difficulty in relaxing. There was marked adiadiokokinesia. She felt pinpoint apparently equally well on each hand. There was no atrophy or deformity of the legs. The knee jerks were not obtained on either side. The Achilles reflexes were not obtained on either side. There was an ataxia of both hands in the finger to nose test, not made worse by closing the eyes. The Wassermann reaction on the patient's blood was strongly positive.

It will be noted that the first two cases are alike almost to the last detail. In the third case the patient was older and there was no history of convulsions but there was the same ataxia and choreiform movement and the same findings on examination, which would seem to demonstrate that the convulsions were not a necessary factor in these cases. I would especially call attention to the very good health of the parents and the fact that the Wassermann reaction was negative in the parents in all of these cases.

The next class of cases are those in which symptoms develop in childhood after an apparently normal infancy. These cases are more important than the cases with congenital symptoms for the reason that the diagnosis is even more likely to be overlooked and also for the reason that proper therapy is effective in such cases.

Case IV. Male, 19 months old, was first seen, June 21, 1911, in consultation with the family physician who, together with other consultants had regarded the case as one of tuberculous meningitis. The father and mother were well. The father at first denied but later admitted that he had had syphilis at the age of 19. The patient was an only child. There had been one miscarriage. The patient was born naturally, began walking and talking at about one year, had never been sick and was regarded as very healthy. Several weeks before I saw him he began to hold his head stiff and turned to the right and at about the same time a discharge was noticed from the ear which lasted about a week, then stopped. The child continued to complain of headache; would not walk or sit up; staggered on walking with support and had some vomiting but no convulsions. He was stuporous. Examination showed a fairly well nourished child. The pupils were



equal and reacted to light but there was a slight strabismus. There were some enlarged glands in the neck and the head was retracted and turned to the right. The tendon reflexes were normal and there was no Babinski reflex. There was no definite paralysis of the extremities and no Kernig's sign. Hearing was apparently normal. He was placed on daily inunctions of one dram of mercural ointment and also syrup of the iodide of iron. Improvement was noticed in one week and in three weeks he seemed well. I have heard from the child at intervals since then and he remains well.

Case V. A boy, age 8, with an entirely negative family history, was said to have had rickets when a baby and corneal ulcers about one year before being seen, Nov. 27, 1913. His sickness apparently began about six weeks before that date, when he complained of dizziness and blind spells, but he continued to go to school. About three weeks later he had an especially severe dizzy spell with headache and became weak in his left side. He seemed to recover from this in a few hours. About a week after this he had a convulsion and was found paralyzed on his right side. He was then unable to talk, to say anything except yes or no. There was no distinct history of fever and no vomiting. When examined the patient was lying quietly in bed and apparently conscious but would not respond to questions or obey commands. The pupils were dilated and reacted very little to light. Accommodation could not be tested. The eyeballs did not turn as far as they should but the extraocular movements were otherwise normal. The right arm was contracted in flexion at the elbow. The contractures could be passively overcome and there was no distinct atrophy. The biceps and triceps reflexes were increased. There was some weakness of the right leg but no contractures. The knee jerks were increased on both sides. The Achilles jerks were prompt on both sides. The Babinski reflex was present on the right, not on the left. The patient's father denied syphilis and said that he was the father of seven healthy children, the patient being the second child. A lumbar puncture showed positive globulin and albumin reactions and a four plus Wassermann reaction on the spinal fluid. The patient was not treated for syphilis and an examination a month later showed about the same findings, though the patient was more emaciated and at this time both legs were spastic.

Case VI. Female, age 4 years, was seen Oct. 18, 1914, at the patient's home in consultation with the family physician, who

had made a diagnosis of tuberculous meningitis. The father, mother and grandparents were well and syphilis was emphatically denied. The child had been considered a very healthy and pretty girl. The first convulsion, epileptiform in character, occurred six weeks before while the child was apparently well, and affected more the left side, which seemed paralyzed for a short time afterwards. One month later she had another convulsion which affected the right side and was followed by weakness on that side. Two weeks later she had still another; and following this a series of attacks. When seen she was apparently conscious but she would not talk and was very irritable when disturbed. She apparently had no headache but vomited as soon as she was forced to sit up. The pupils were equal but reaction to light was questionable and the reaction to accommodation could not be tested. There was no strabismus although the doctor said that there had been. There was no definite paralysis. The tendon reflexes were all normal. There was no Kernig sign and no Babinski. A physical examination showed nothing abnormal. The urine had a specific gravity of 1018 and contained no sugar, no albumin and no casts. The spinal fluid was clear, showed some increase in lymphocytes, slight globulin reaction, and a positive Wassermann reaction. There were no tubercle bacilli. The treatment suggested was inunctions of mercury and potassium iodide. The patient was not under my observation after this but on October 28 her condition was reported to me as being somewhat better. She had vomited twice but complained of no headache. Stools were normal. Temperature, pulse and respiration normal. She was drowsy but easily aroused and ate well and had no convulsions. On November 5, she again had convulsions and became apparently blind and deaf. Pulse became very slow and irregular and she died in coma.

Case VII. Female, age 3 years. First seen June 11, 1913. The father had a valvular heart trouble, the mother and one brother were well. There was no history of injury at birth. The patient walked and talked at about the age of one year and was regarded as a healthy infant. The sickness apparently followed whooping cough and muco-colitis. There was no vomiting and no convulsion. The child became emaciated, peevish, gradually grew weak in the legs and arms and could not talk as plainly as before. When examined she was unable to sit or stand, could make no movement in either leg, and there was also marked weakness in the arms. There was no complaint of pain and no pain on movement of the limbs. The knee jerks and Achilles jerks could

not be obtained. There seemed to be no localized atrophy, though the arms and legs were extremely wasted. Plantar irritation caused flexion of the toes on both sides. There was no Kernig sign and no retraction of the head. The liver felt enlarged. There was a general brownish discoloration of the body. Sensation to pain was retained in all four extremities. The fundus showed a neuroretinitis of luetic type. A Wassermann reaction on the blood of the mother was negative. The father's blood was not taken. The patient was treated with mercury and iodide. On the 30th of July, the same year, the family physician reported a marked improvement.

It will be noticed that Cases IV to VII show considerable variation in the clinical manifestations. For the most part the diagnosis is confused with tuberculous meningitis or anterior poliomyelitis. These cases may completely recover under appropriate treatment but have a tendency to become progressively worse without treatment and are often fatal even in spite of treatment. Just why this difference in the response to treatment is difficult to say but it is very similar to the result of treatment in cases of acquired syphilis of the central nervous system which in some cases rapidly progresses even though energetically treated.

The pathology of the Cases I to III, inclusive, is probably a chronic interstitial encephalitis such as Virchow described, as early as 1865.<sup>3</sup> A short time after v. Gräfe<sup>4</sup> described similar changes occurring in the cornea and spoke of their relation to the changes described by Virchow in the brain. Although interstitial keratitis has ever since then been recognized as a sign of congenital syphilis the indications of similar changes in the brain have generally been overlooked in this connection. The pathologic changes in Cases IV to VII were probably of the same type although in these cases there is perhaps more meningeal involvement, a meningo-encephalitis, and in this respect they resemble more the brain changes due to acquired syphilis.

Syphilis as a cause of epilepsy is well known. A great many cases formerly regarded as idiopathic epilepsy are found on further investigation to be due to syphilis and in a certain number of cases the syphilis is congenital. These cases are not uncommon and I have seen a large number of them but they are similar in their clinical manifestations and I report only one example.

Case VIII. A girl, age 17, was first seen in June, 1913, complaining of petital epileptic attacks. The father was living and well. The mother was dead, supposedly of anemia. Two

<sup>3</sup> Virchow's *Archiv.*, Bd. 38, S. 129.

<sup>4</sup> *Archiv. f. Ophth.*, Bd. 12, S. 250.

brothers were apparently well. There was no family history of epilepsy. The patient had had no other sicknesses and had been regarded as a healthy child. She had had two operations on the nose and a circumcision in endeavors to relieve the attacks. The petital attacks began about the age of 13 and, in 1913, she was having them about once a month. There were no other complaints. Examination showed a well nourished girl. The pupils were equal and reacted to light and in accommodation. There was slight nystagmus. The fundi showed a neuroretinitis. Bone conduction was reduced in both ears though the hearing in other respects was normal. The tendon and skin reflexes were normal. There was no paralysis and no sensory changes. The patient had scaphoid scapulae. The diagnosis of hereditary lues was suggested but her home physician did not carry out very energetic treatment. The patient returned to see me October 9, 1914. She was then having grandmal attacks, about two or three times a week, usually at night, also petital attacks during the day. The examination showed practically the same findings as before. The Wassermann reaction on the blood was four plus positive. She began receiving treatment by intramuscular injections of mercury on the 12th of October. She had one attack on the first of November and no petital attacks at all. On November 16 a Wassermann reaction was reported doubtful on the blood and treatment was stopped temporarily.

Cases of syphilitic epilepsy, whether inherited or acquired, frequently respond to treatment. My own experience is not sufficiently large or long to say that these cases can be cured but they are unquestionably much benefited by proper treatment and are very refractory cases to ordinary treatment such as bromides, etc.

#### CONCLUSIONS.

My conclusions, which are drawn from other cases under observation and from the literature as well as the cases mentioned above, would be:

A negative history for syphilis in the parents of a patient, no matter how carefully inquired into, cannot be trusted to rule out the diagnosis of congenital syphilis of the nervous system.

A negative Wassermann reaction on the blood of both parents is not sufficient to exclude the diagnosis of congenital syphilis of the nervous system.

Mental defect often associated with paralytic and convulsive phenomena is frequently due to congenital syphilis.

The diagnosis in such cases must be made by the peculiar clinical manifestations but it will often be confirmed by a positive

Wassermann reaction on the blood or cerebrospinal fluid or both and by the results of therapy. The pathology in such cases is probably a chronic interstitial encephalitis.

There are many cases of meningo-encephalitis and meningomyelitis occurring in children that are due to inherited syphilis but which are often mistaken for tuberculous meningitis or for poliomyelitis. The clinical findings are the best diagnostic criteria in such cases.

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### CARCINOMA OF THE PROSTATE.\*

By L. G. GUNN, F. R. C. S. I.,

Surgeon to the Adelaide Hospital, Dublin.

There are three points in connection with carcinoma of the prostate to which I wish in particular to direct attention: First, its relative and increasing frequency; secondly, its relation to the hypertrophied prostate; thirdly, its diagnosis.

Sarcoma is so rare that I do not intend to touch on it at all.

It is difficult to find trustworthy statistics. The earliest that I can get are those of Tanchou. He collected the *post-mortem* records of the Paris hospitals from 1830 to 1840. He found in all 8,600 deaths from cancer. In 6,200 of these the primary cancer was stated. Of this number the cancer occurred in males in 1,904, and out of these cases only five showed carcinoma of the prostate—that is to say, one case occurred about every two years. In Dublin at the present time probably from five to ten cases of carcinoma of the prostate occur every year with a population less than a quarter the size of Paris in 1840.

Sir Henry Thompson in 1860 does not give the number of cases investigated by him, but these must have been large, for he describes six cases of sarcoma. He has only been able to collect eighteen cases of malignant disease of the prostate, of which six were sarcoma. Either the disease was much rarer in those days, or Sir Henry Thompson's observation was at fault. The latter can hardly be the case, as his account of the diagnosis and symptoms of carcinoma of the prostate is to-day generally accepted.

Sir Henry Morris in 1895 looked upon the disease as an exceedingly rare one. He does not mention actual figures, but obviously has seen few cases in his very extensive practice.

Then comes the advent of prostatectomy. Statistics at once alter.

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\* Medical Press, Dublin.



Albarran in 1906 found ten carcinomatous prostates among 100 given to him to examine as simple hypertrophy.

Lewisohn in 1909 found eighteen cases in 147 examined by him, or about 12 per cent. carcinomatous. Oliver Smith in 1910 found sixteen in 100. Young in 1912 found forty-two in 400, about 40 per cent; this included three sarcomas. Mansell Moullin in 1913 puts the percentage as high as 25 per cent.

Of my own cases up to date seventeen prostates have proved to be carcinomatous out of 133. I have seen no cases of sarcoma. This gives about 12 per cent. I would call attention to two possible fallacies: First, what I may call the fallacy of the specialist. It is certain that more bad cases go to the specialist in any type of disease than will go to the ordinary surgeon or physician. The specialist's percentages of cancerous conditions are always likely to be on the high side. Secondly, the expectation of life is considerably longer to-day than it was forty or fifty years ago.

From the points that I have mentioned two facts seem to stand out: First, that at least 7 per cent. of all enlarged prostates giving rise to symptoms are carcinomatous. Secondly, that cancer of the prostate is a more common disease to-day than it was thirty years ago. When we remember that, of men over 60 years of age, in one in four cases the prostate gland is enlarged, and that in one in twelve this enlarged gland gives rise to symptoms, we can hardly look on the disease as a rare one.

#### THE ASSOCIATION OF CARCINOMA WITH THE HYPERTROPHIED PROSTATE.

What is the hypertrophied prostate? Its pathology at the present time seems rather unsatisfactory. As an operator, I can recognise readily four clinical types of prostate gland that give rise to obstruction and call for surgical interference:—

*First.*—The small, firm, fibrous prostate; difficult to remove, not difficult to explain. It can be explained as the result of chronic inflammation, with the formation of fibrous tissue. It might almost be called a cirrhotic prostate.

*Second.*—The large, elastic prostate, smooth and even in its consistence; easy to remove by operation, but difficult to explain on removal, unless it be a true hypertrophy.

*Third.*—The lumpy, irregular prostate, which is commonly met, containing few or many uncapsuled tumours scattered through

it. These are obviously of the nature of non-malignant growths, adenomata or fibro-adenomata.

*Fourth.*—The carcinomatous prostate, hard, and fixed to the pelvis; very difficult to remove.

The amount of gland removed by operation differs in each of these four varieties. In the first the whole gland is affected, but the whole gland is probably never removed. The surgeon snips away as much as he believes necessary to relieve the obstruction. In the second the entire gland inside the fibrous capsule appears to come away at the time of the operation. In separating the gland from the true capsule and its fibrous sheath, at two points difficulty is met with—at the urethra and at the seminal vesicles. This makes me think that a real enucleation of the gland takes place. In the third adenomata and some prostatic tissue are removed, but the greater portion of the prostate gland, thinned and altered by pressure, is left behind. In the fourth, if a radical operation is done, both gland and capsule and the seminal vesicles are removed.

I wish to call attention next to simple hypertrophy of the prostate. What causes the enlargement? Is it a hypertrophy? Is it inflammatory? Is it a tumour formation?

This is still far from being a settled point. To show the difficulty of coming to a definite conclusion I will quote short extracts from opinions of pathologists for the past fifty years:—

Virchow (1863) describes hypertrophy of the prostate as of two classes—one, a myoma, the other a gland tumour.

Billoth (1869) believes hypertrophy is never an adenomatous growth, but is a dilatation of the acini, with some hyperplasia. He also thinks that myoma formation is common.

Socin (1871) believes that hypertrophy of the prostate is never inflammatory nor a hypertrophy but a true tumour formation.

Lounois (1885) believes hypertrophy of the prostate is never a tumour formation, but is part of an arteriosclerotic process, beginning in the kidneys and extending to the entire genito-urinary system.

Hirschfeld (1887) believes that hypertrophied prostate is a new growth; that it takes its origin in a building of the gland tubules.

Ciechanowski (1900) believes all hypertrophied prostates are inflammatory, the great majority the result of gonococcal infection.

Albarran (1900-1910) and the majority of the French inves-

tigators hold the hypertrophied prostate to be a true tumour formation. Some think it springs from the accessory periurethral glands—others from the prostate itself.

Wallace (1911) states that it is an adenomatous formation, usually springing from the periurethral accessory glands.

A. Thompson (1905) says that he has never seen an encapsulated adenoma, or fibro-adenoma in the hypertrophied prostate. He doubts if they exist, and says the enlargement is due to a diffuse hyperplasia of the gland itself.

Adami and Nichols (1911) say that "prostatic hypertrophy may precede the development of definite neoplastic conditions within the organ, nevertheless it must be sharply distinguished from the same. We should regard it as the outcome of a long continued chronic inflammation, more particularly involving the urethral portion of the gland."

Aschoff (1913) states that the inflammatory theory is very doubtful, and that the enlargement is a true tumour formation.

All this goes to show that there is yet great doubt as to the character of the simple prostatic hypertrophy. It seems most probable from recent work that, in most cases, it is a tumour formation, occurring in the periurethral glands and possibly not really in the prostate itself.

Three types of carcinoma are described. A fibrous type, a soft fungating type, and, lastly, an adeno-carcinoma. The last is by far the most common, the others being comparatively rare.

Hawley (1906), who has done a considerable amount of work in connection with carcinoma of the prostate, describes it as follows:—

"The adeno-carcinoma resembles very closely the non-malignant, adenomatous growth found in the so-called hypertrophy: the alveoli in both may be distended with desquamated epithelial elements. In carcinoma, however, there exists usually less space between the alveoli, the cell nuclei stain deeper, and lymph spaces often contain cancer cells. The fibrous sheath of the prostate is not involved until the last, often may escape being invaded, and very often escapes being penetrated by the disease for years."

The question arises: Does cancer of the prostate ever occur without hypertrophy being present first? Clinically, I would say yes, but the percentage of such cases is small.

It is well to remember that cancer of the prostate is not necessarily an enlarged prostate. Metastasis may first call the patient's attention to the fact that he has something wrong with him.

Deposits in abdominal glands, in the mediastinum, in bones, in the brain, etc., may occur before the onset of any urinary symptoms. In five out of Young's forty cases of carcinoma the disease seems to have begun before hypertrophy was at all marked. This happened in two of my own cases. It seems nearly always to occur in prostates that we recognize as adenomatous. This raises the question: Is the adenomatous prostate an enlarged prostate?

The work of Gardiner and Simpson in 1913 shows quite clearly that adenomata occur much more commonly in the prostate, and at a much earlier period of life, than is usually supposed. They have examined a large number of prostates removed from patients dying of other diseases. Of nineteen cases of prostate glands removed from men between the ages of forty and fifty, five glands showed definite adenomatous formation. Of twenty-one cases removed from men between the ages of fifty and sixty, seven showed the same condition. Of eighteen removed between the ages of sixty and seventy, five also were adenomatous. This would lead us to suppose that adenomata are as common in the prostate gland between forty and fifty as they are at a much later period of life, when they may give rise to clinical symptoms. It also makes it very uncertain that carcinoma, when it does develop, may not develop in a previously existing but unrecognized adenoma.

Is there any reason why a prostatic adenoma should become carcinomatous more readily than, let us say, mammary adenoma? On general lines, all tumours of the genito-urinary tract are rather malignant in type. We know that a tumour exposed to the urine certainly tends to become malignant. A villous tumour of the bladder is histologically not very different from a papilloma of the skin, or polyp of a mucous membrane. Yet it is rather a rare thing for either of the latter to become carcinomatous. It is, on the other hand, a certainty that if a patient with a villous tumour lives long enough the growth will certainly become carcinomatous.

It is important for this reason for us to be sure whether the hypertrophied prostate is an inflammatory or a true tumour formation.

If exposure to the urine is an exciting cause, is there, then, a danger in removing adenomata and leaving raw prostatic tissue exposed to the urine? In this connection I quote two cases of my own:—

1. Canon H., *æt.* 71. A simple adenomatous prostate was removed. The pathological report was, "An adenomatous growth."

Eighteen months later a malignant mediastinal growth appeared, and a hard mass at the neck of the bladder, which eventually caused his death. No *post mortem* examination was allowed, but there was, no doubt, cancer at the neck of the bladder, and a secondary deposit in the thorax.

2. Mr. B., æt. 80. Adenomatous prostate removed. Pathological report, "Good—no malignancy found." In nine months carcinoma occurred at neck of bladder. Seven months later a suprapubic fistula had to be made, and death occurred three months later.

I believe both these cases were failures on the part of the pathologists to find a cancerous deposit in the gland. The number of such cases where cancer has followed the removal of apparently simple adenomata is very small, and in the present state of our knowledge of the pathology of the enlarged gland no definite conclusion can be drawn from such cases.

Perhaps a more important point is: Is enlargement of the prostate gland an indication for its removal, for fear of carcinoma occurring in it? Up to the present, the symptoms caused, and not the size of the prostate, have been the points considered. Even if a gland is enlarged, and is not causing trouble to the patient, few (if any) surgeons advise its removal. The change from simple to carcinomatous enlargement is sometimes sudden, and often not well marked. I quote a case in point: Mr. F., æt. 73, originally came to me for another trouble in connection with a rupture. Inquiring if he had any straining in passing water, he said "No," but on making a rectal examination, I found considerable enlargement of the prostate gland. This was giving rise to no symptoms of obstruction. I advised him to see me twice or three times a year, in case any evidences of back pressure should show themselves. I last saw the case in May, 1914. I was then away from Dublin for a short time, and on my return found that things had not been going well with Mr. F. Pain and frequency had developed, and he had lost some weight. Examining the prostate gland, it showed all the evidence of a typical carcinoma in the left lobe. It had not been possible to diagnose six weeks previously. It was now quite obvious. Had his gland been removed a year earlier the operation required would have been far less dangerous, and the chances of recurrence infinitely less. Success in such cases, I am sure, depends far more on early operation than on the extent of the operation performed.



## THE DIAGNOSIS.

Sir Henry Thompson's classical description of obstruction, a stony growth, a swelling fixed in the pelvis, pain radiating into the sacrum and out towards the hip—is typical of advanced carcinoma; but in nine cases out of ten, where such symptoms are present, the case is too far advanced for any hope of success by means of a radical operation. A palliative operation may, however, be performed in some of these cases. Many books tell us to be on the look-out for the presence of blood in the urine. This, in my opinion, is quite wrong. Hæmorrhage is a rare occurrence, and, in any case, is always a very late symptom of the disease.

There are three points which may help in the early diagnosis of this condition:—

*First.*—The occurrence of pain without obvious retention of urine.

*Second.*—A disproportion between the symptoms complained of and the condition found on rectal examination (Mansell Moullin).

*Third.*—The rapid onset of symptoms, progressing as far in six months as an average case would in two or three years (Watson).

Perhaps it would be well to emphasize here what has already been mentioned—that the carcinomatous prostate is not necessarily an enlarged prostate.

Of the seventeen cases that have come under my care, in three the disease was not recognised prior to operation. Two of these cases I have already mentioned; in the third I found a definite carcinomatous mass in one lobe of the prostate as I was removing it.

In three cases I have performed a radical operation. In one, the operation had to be abandoned before the entire gland was removed. One patient died from a cerebral hæmorrhage fourteen months after the radical operation had been performed, and, although I am not certain, I think there was some recurrence of the cancer at the neck of the bladder. One patient treated in July, 1914, is alive and well—putting on weight—but it is obviously too soon to be certain that no recurrence will take place in this case.

Eleven of the cases were inoperable. These lived on an average of from two to fourteen months from the time the diagnosis was made. In four of these cases a suprapubic fistula had to be made. In three cases I diagnosed carcinoma, and this diagnosis proved to be wrong. In one, after removal, the gland was found to be adeno-

matous. In a second—in a man of 64—the symptoms coming on very acutely, a radical operation was performed, but the gland proved to be tuberculous. And lastly, in a gentleman of 82, who presented all the symptoms of an advanced carcinoma of the prostate, now eleven months have elapsed since I made the diagnosis, and, as his general health has vastly improved during this time, I think the diagnosis must have been wrong.

In conclusion, I wish to lay stress on three points:—

*First.*—That carcinoma of the prostate is a comparatively common disease in elderly men. It is becoming increasingly frequent.

*Second.*—That it is most important that we should be certain if the hypertrophied prostate is a true tumour formation or not, and if all forms of prostatic hypertrophy are due to the same pathological process.

*Third.*—That the prospect of successful treatment depends far more on early diagnosis than on extensive operative procedures.

NOTE.—Many statements and facts in the above paper have been taken directly from papers. The names of the authors in many cases have been mentioned: where they have not, I trust that the omission may be forgiven.

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## VIRGINITY OF TWENTY YEARS STANDING IN A MARRIED WOMAN SUFFERING FROM NEURAS- THENIA VERA AND THE ANXIETY NEUROSIS.\*

BY CURRAN POPE, M. D., Louisville, Ky.

THE following case has been to me of extreme interest, has been the subject of close and intense study, and has terminated so successfully that I have been tempted to report it in its entirety. There are so few cases, in my limited experience, that show so plainly the origin, influence, and effect of those mental mechanisms we today term "Freudian" and which so few of us are willing to accept in the full sense of that term, that the case may possess an equal interest for others. Neurologists are beginning to look more and more below the surface of the symptoms presented by neurotics, and to no longer accept symptoms at their "face" value. Below the surface lies a vast field and it is into this that we plunge when we try to solve

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\* Urologic and Cutaneous Review, March 1915.

the factors, that really determine the outside labels we call symptoms.

The subject of this investigation is a woman 43 years of age, married, no children, of large frame and powerful physique. Her family history is negative—nearly all of her forbears, both paternal and maternal, dying at a fairly good age of some acute condition. One or two had nephritis of the chronic type. So far as can be learned, her personal history is negative. She is one of five children, all of whom lived to maturity.

She was born at term, was breast fed, teethed, walked and talked in normal sequence. She only remembers to have had measles, and has been singularly free from infections. Her growth was steady and she developed rapidly after puberty, the onset of her menses taking place at the sixteenth year. She was always as a girl and woman, full of bust and large of hip. In her young womanhood she continued to live on the farm and taught country school until the age of twenty-one, at which time she met her husband-to-be for the first time and, after a courtship of two years, married him. During the period covered by the two years there was never any transgression of the social amenities, both partners coming to the nuptial bed free from venereal taint or personal transgressions that might mar their future life.

At this time she had a hazy and generally indistinct idea of marital and sexual life, being aware from her observations of animal life that "animal relations," that is copulation, resulted in progeny. This was taken as a natural consequence, and she simply applied the general rule to herself, expecting to "have a husband, settle down and raise a family." In this, as in all things man proposes and the Diety disposes, as we shall see.

She denies, absolutely, any infantile sexual experience, masturbation or sexual traumata. She was raised on the farm, had few companions and came little in contact with children who were "dirty" in their ways. She had a limited knowledge of copulation and its results obtained from the breeding of stock on her father's farm, and knew that "when people married they had children" and that "she supposed they came, as in the case of animals, from such relations." Even today, after twenty years of married life, she has no vividly clear conception of the act as she has never known normality. She had no other "steady" beau, save her husband, to whom she is attached. She was not much upset by the connubial bed, but in a few weeks developed a full passion for sexual congress and has had no reason to doubt that

she was "as other women," although she could not understand why her two sisters had children and she was barren. Both she and her husband have longed for issue and, in a certain sense, an heir was needed as they own a large body of well cultivated land, that should have passed to their child, or children. She has been a hard worker, a saver and he a rather "close" man, as far as money matters are concerned.

She believes that her present condition is the direct result of overwork and the worry, wear and tear incident to "woman's work that is never done," which she thinks applies with especial force to a woman on a large prosperous farm with its manifold duties. They are both protestants of rather serious religious type and have tried to model their life according to the higher social and religious ethics that are recognized as necessary in religion.

She says that several years ago she began to tire easily, that she wished to sit down and rest and that this was absolutely foreign to her usual feelings or her nature. That later, mental tire and irritability followed this to such an extent that no matter whether she sits quietly all day, or lies in bed, the feeling of fatigue never seems to leave her. That everything she does tires her, sitting, walking, thinking and, above all things, talking. This latter seems to sap every bit of her vitality, although when well she "did her full share." She says that her head seems full, as though the brain wished to press out, or the skull was too small and that at all times, and especially on rising, her head feels very light and as though it were unsteady on her shoulders.

There is a "catch in the throat" with a sense of oppression which seems to be greatest over the heart, her heart action being irregular, and that usually she has palpitation when one of these "spells takes her." She has frequent and severe attacks of vertigo in which the objects have a tendency to rush before her eyes, causing a glimmering, followed by many irregular *muscae volitantes*. There is a feeling of numbness, tingling, pins and needles in the arms and lower limbs with a sense of coldness and lack of circulation in all extremities. Her spine tires very easily and upon the slightest exertion she has a severe dull ache, apparently deep seated, limited to the lumbo-sacral region. She has a fair appetite, and eats carefully but suffers a great deal from uneasiness and tenderness in the stomach during the process of digestion, followed later by ballooning and distension of the abdomen, marked gastric and colonic flatulency with constipation. When the gaseous distension is at its height she is apt to have one of her "heart and

chest attacks," i. e., shortness of breath, palpitation, etc. She sleeps very irregularly, awakens easily, is restless and arises unrefreshed. Dreams a good deal of a confused character, but at times has very vivid dreams of a "horrible nature," from which she awakens scared. She worries all the time about her condition and fears she will never get well. She used to have a strong and steady "nerve" that nothing seemed to upset but now she is excited by any little trifling occurrence, which depresses her intensely and adds to a sense of impending evil, or disaster, especially poverty, that seems to be over her like a pall. She is so easily scared that she hates to be alone, and yet hates to talk to anyone, or even be in their company. Any excitement, worry or exhaustion will make her shake like a leaf, in fact she trembles most of the time. She complains mostly of an "inward" trembling, a sensation resembling the appearance of the shaking of jelly. Her head aches all the time in a strained way, a dead dull ache over her eyes, deep seated in the eye, and at the occiput, and after the slightest use her eyes become irritable and a photophobia develops.

By prolonged and careful investigation, and after much persuasion she came to see the advantage of a proper psychoanalytic response, and it then developed that, at the onset of her "ill-health," she began to lose her passion, that there was a very marked diminution of her potency, that the connubial advances of her husband, which were formerly welcomed, became distasteful, and that there was a distinct lack of gratification. She had no dreams with pollutions, but felt there was something wrong. She has always been regular in her menses, 28 days type, sick three or four days, no pain or disturbance, save a normal increase of sexual passion, which was never satisfied until the cessation of the period.

The woman's vaginal introitus was very small; the hymen strong and deeply situated, the hymenal opening central and no larger than  $\frac{1}{4}$  of an inch in diameter. The labia majora were unusually large and well developed; the pubis well covered with hair. As far as can be gathered the act was consummated in the normal dorsal decubitus position, the male organ entering intralabially, with the glans, probably, partly entering the vaginal introitus. It is somewhat surprising that in the space of twenty years no seminal fluid should have entered the hymenal opening, unless we have to deal here with a sterility that would have existed had normal conditions been present. Later examination revealed a normal uterus and adnexa with no evidence of any past disease,



the uterus being well developed, of normal size and freely movable.

The husband of this woman is aged 52, a successful farmer of medium height, blond, of rather spare build, nervous and peculiar. He is possessed of fairly good health, and has had very little sickness, an occasional attack of coryza or grippe. He has always lived on the farm, has never had sexual relations with any woman save his wife and has been free from all venereal taint. As a boy and young man he practiced moderate autoerotic stimulation but was never excessive as a masturbator, nor could he see that his health has been, or was, injured by the practice. He married at the age of 32 years, his wife being at that time 23 years of age. All the information or knowledge he possessed of a female of the *genus homo* was of the hearsay type, what practical knowledge of coitus and its results being gathered from the copulation of animals and their subsequent growth and birth. He thus came to the marriage bed uneducated and inexperienced for the duties he was about to assume. Sexually he was well developed, both as to the size of the penis and testicles.

He was, I would judge, normal as to desire and was, and has always been able to satisfy his sexual wants. He has averaged two or three relations per week since his marriage but has, of late, found them less satisfying and more fatiguing owing "to his wife's nervousness and ill health." In erection his penis is about  $6\frac{1}{2}$  inches in length and of normal calibre for length. He is attached to and fond of his wife and enjoys intensely sexual relations with her, but has for many years felt that there was "something wrong" with her.

*Physical Examination.* She is five feet ten and a half inches tall, weighs one hundred and forty pounds, net nutrition poor, muscles flabby. Her bust is fairly full, the hips high and thigh well built with well marked normal lardosis. Her complexion sallow, and the skin dry and inactive: hands and feet cold. Is quick in movements. Gait and station normal. There is no motor loss, and facial innervation is normal. Sensory responses normal, all sensory disturbances being subjective. The pupils are round, dilated, equal and react to all tests normally. All reflexes, both deep and superficial, are very active. Tendency to constant swallowing; slight enlargement of thyroid. Chest box large and of good shape; inspiration and expiration normal. Lungs normal, sounds very clear. Heart rather rapid, slightly irregular action at times: area normal, apex beat normal, sounds clear

and normal save that the second sound is a little loud. Pulse 88-96, irregular at times, but of fair volume. Tongue flabby, pale, indented, moist, slightly coated white, tremor. Abdomen shows tenderness over stomach and appendiceal region: pulsating aorta; bowels fairly regular with mild laxative. Pelvic examination, both external and internal, showed normal organs, save for the fact that the hymen was intact, the median opening small and the vagina showed the absence of introitus. *This woman, married twenty years, was a virgin.*

It should be noted at this point that the symptoms presented by this woman are those of a *neurasthenia vera* with *anxiety neurosis* super-added. On the side of *neurasthenia vera* we have: (a) well marked physical and mental exhaustion increased by either physical or mental activity; (b) pressure and fullness in the head; a light-headed feeling; (c) tender and *irritable spine*, especially in the lumbar region; (d) *gastric* uneasiness and oppression with tenderness on pressure; *colonic* distension, flatulence and stasis as shown by actual X-ray examination. (e) *paresthesiæ* with pins and needles in the extremities, numbness, tingling, etc.; (f) recent diminution of *potency* with lack of satisfaction, no pollutions, and a feeling as though "something was wrong;" (g) marked *emotional* depression, more or less constant.

On the side of anxiety-neurosis we may group:

(a) *General nervous irritability* and irritation shown by extreme nervousness; sensitiveness to sounds; irritable eyes; insomnia.

(b) *Anxiety and anxious expectation*: shown in the sense of an impending disaster, fear of poverty, fear of a collapse, the loss of mind; and a general feeling of discomfort, both bodily and mental.

(c) *Cardiac*: shown in palpitation, precordial oppression, irregularity and a sense of cardiac "sinking" with weak pulse and sensation of collapse.

(d) *Respiration*; shown in shortness of breath increased by exertion, anxious expectation, etc.

(e) *Trembling*; quite marked and at times apparently without reason.

(f) *Pavor nocturnus* (of adult type) accompanying dreams of a very unpleasant nature.

(g) *Vertigo* more or less present at all times, accentuated at times, but *not accompanied* by anxiety.

Sigmund Freud was the first to insist upon a clear separation of neurasthenia (vera) from the hazy and indefinite groups known to the general practitioner and specialist of that time (1893) as "neurasthenia." Freud sharply differentiated the symptomatology of Beard's earlier work and divided this neurosis into two well defined clinical groups, and insisted that underlying each group was a specific etiology. These symptoms consist of those frequent symptom-complexes of pressure in the head, spinal irritation, dyspepsia with flatulency and constipation, paresthesias, diminished potency, as well as a prevailing emotional depression. According to his view this clinical picture corresponds to the specific cause or excessive masturbation or frequent pollutions or better expressed: "neurasthenia (vera) may in every case be traced back to a condition of the nervous system which has been acquired through excessive masturbation or arisen from frequent pollutions." It is therefore essential and necessary to separate the "*pseudo-neurasthenias*" or, as the writer denominates them, "*neurasthenoid*," from neurasthenia vera, neurasthenoid conditions arising in the course of cachexia, arterial sclerosis, early stages of paresis, the psychoses, etc.

Of the wide spread and almost universal practice of auto-crotism, few physicians of any experience would make denial, and we must realize that the sexual need once aroused and gratified for some time, will not permit itself to be silenced, but is transferred to another object. If this be true it opens a wide field in prophylaxis. Social and sexual reformers to the contrary, notwithstanding, we say, with Freud, that pubertal onanism cannot be entirely avoided, because in our so-called civilized social organization too great an interval has been interposed between the awakening of the sexual instinct and the possibility of its regular gratification within the bonds of religious and legal wedlock. No two people are alike and some bear with impunity masturbation that makes others ill. Freud believes that masturbation lessens the individual's power for the normality of typical sexual life, as well as weakens him (or her) for the strain and strife of life. "Through his turning away from society, the masturbator becomes antisocial and betrays the result of his vain strife against passion in a number of other characteristics, as weak will power, doubt of the possibility of accomplishment and similar self-reproaches. There seems to be a kind of mental type for him who has misused onanism."

The turning of the onanist from reality results in an inability to tolerate the imperfections normally found in the female sexual object. Now let us see as to the present case. Accepting her statement as true, and after a modified psycho-analysis we are inclined to do so, we have here a woman who was sexually dormant and undeveloped orgasmically until her marriage, who within a few weeks develops a normal sexual orgasm, and who for twenty years practices onanism with her marital partner and who finally, under the banal influence of worry, care and overwork, begins to become impotent and only partially gratified by her marital partner—super-adds a second neurosis to the primary one of neurasthenia, with the etiological factor of a mutual onanism. As we remarked before, Freud sharply differentiated the broad term with an interpretation of the pathogenesis of the neurosis, in which he takes into account the observation that many cases of anxiety-neurosis accompany an appreciable lessening of the libido or psychic pleasure. Here then we have to deal, as it were, with an accumulation of excitement, that this excitement is converted into anxiety, that this anxiety is of somatic origin and is of a sexual nature. “The idea of the mechanism of the anxiety neurosis can be made clearer by a consideration of the normal sexual process, at first only as it occurs in men. The normal sexual act may be sketched as follows: First, there is an accumulation of somatic excitement; this increases to a point where it occasions a psychic irritation, creating the libido; finally this is discharged by a complicated spinal reflex act which must also carry off the psychic excitement simultaneously. Such a psychic discharge is only possible by the way which Freud has called adequate or specific action. The etiology of true neurasthenia and anxiety-neurosis finds its place in the outline of this representation of the sexual process, which, in essentials, is also applicable to the woman. Neurasthenia ensues every time the adequate discharge is replaced by an inadequate one, as when normal coitus is replaced by masturbation or pollution; all agencies which hinder the psychic utilization of the somatic excitement conduce to anxiety neurosis.” Thus the Freudian view considers the symptoms of the anxiety-neurosis as substitutes for the omitted specific action which should follow the sexual excitement. “In those exceptional cases which do not arise from specific causes but from other banal injuries, such as nursing the sick, overwork, etc., the sexual etiology is indeed absent but the illness is established on the foundation of a sexual mechanism, since general exhaustion renders the

mind unable to care for the somatic excitement which continually makes demand upon it."

In view of the Freudian mechanism, let us see what has taken place in the case we are now considering. To the exhaustion that followed the long continued unintentional marital masturbation with the consequent neurasthenia were super-added the banal influences of worry, overwork from loss of help and the wear and tear incident to the conduct of a large farm. With the onset of neurasthenic exhaustion and sexual impotence, the banal influences were sufficient to render the mind unable to respond to the somatic excitement which began to accumulate, to such an extent that anxiety symptoms were engrafted upon an already existing neurasthenia vera.

Brill says the observation of a great many cases of anxiety neurosis had taught him that there is a psychic element in almost all cases, and with this I most heartily agree.

It was of extreme interest to note the relationship this woman's *dreams* bore to the development of the neurosis. She states that "as she was a hard worker and had a good digestion until her nervous exhaustion commenced, she *never* dreamed, or very rarely, unpleasant dreams or night mares, and that for many months after the exhaustion commenced she dreamed little, but that of late her dreams have been *very* unpleasant." Translated we may say that so long as the libido found an outlet, even in the abnormal marital relation, and so long as no banal influence upset her she slept well and slept practically free from dreams, but that with the onset of the anxiety-neurosis she began to dream and to dream such dreams as one would expect from one in her condition.

We thus see the influence of a displaced libido in originating dream states. She related the following dream: She seemed to be on a mountain, ascending a winding path, she became tired and out of breath and just at this moment a large snake came out of the bushes and pursued her. She became so frightened she awoke, trembling and bathed in perspiration.

An attempt was made to analyze this dream but the patient had progressed so far toward recovery, at the time the request was made, that her co-operation could not be secured. Any one who has given any attention to the study of dreams, or has read Freud's monumental work "*Die Traumdeutung*," or the many excellent articles on the subject, cannot fail to see the strong sexual symbolism present in this dream. According to Freud, the ascent of a ladder, or mountain, etc., is a copulatory dream,



and the snake is one of the most common dream symbols of the male genital organs.

*Treatment.* We may briefly summarize the treatment as follows:

The patient was given a modified rest treatment, with generous diet, massage, hydro-therapy (light baths, douches, hot and cold, etc.), electrotherapy, later exercises, etc., with general hematic and digestive medication. Locally the hymen was freely incised and stretched under local anesthesia. Gradual dilatation of the vagina was practiced until this organ was in proper state for coitus. During all this course of treatment a modified psycho-analytic investigation was proceeding, and when proper transference was secured, and later when the salient facts were developed, a re-education was attempted along those lines where ignorance had bred unhappiness. This was of great importance, for here was a woman, normally of strong sexual appetite approaching the time of the menopause, at which time we expect a normal heightening of desire, a condition that is not infrequent at the climacteric. In two months the woman was so much better that she was allowed to return home. She had gained flesh, her skin had become clear, the exhaustion had practically ceased, she was much stronger and indications of normal desire were felt to be present. She returned home and for one year has practised normal relations, with the result that she is again strong and active, and, so far as the neuroses are concerned, she writes: "I am as well as I ever was and can attend to all of my work, although in view of what I have gone through with we both believe it to be safer and better for me to have help than to break down again." There has been a corresponding improvement in the husband's condition, especially as to his mental status. He has been brighter and happier than in a number of years.

While I cannot in any sense subscribe to *all* of Freud's beliefs, or theories, still I believe that he has not only done much to enlighten us on obscure neuroses and psychoses, but will do more. Today Freud is the most stimulating investigator along psychic lines and he will have to be considered. Mere ignoring or condemnation is valueless. One must with broad and open mind study his works, and where possible, and the case demands, apply them.

A knowledge of his works will cast light on many a case that cannot be psycho-analyzed. But no matter what may be our individual opinions *pro* or *con*, some of Freud's principles will stand the test of time, and if this be true he will share no worse

fate than those who have gone before, for every investigator, every discoverer, is apt to claim too much for his work. Every path finder must travel his "River of Doubt" and if in the end, out of the large stack he has garnered some kernels of grain sprout and forever testify to his remarkable ability, he has accomplished much. We all know that many will object simply because of the underlying sexual conditions claimed by Freud, and if this is really the truth and the correction of the psychic or psychosexual state will *cure*, I am Jesuitical enough to say that the "end justifies the means."

In conclusion, it would seem from a careful study of this case, that we have here outlined an exceptionally clear demonstration of Freud's teachings, both as to the onset, etiology and symptomatology of neurasthenia vera and anxiety-neurosis. The therapeutic results would seem to further testify to the truth of this mechanism and to the efficacy of the correction of the existing psychic, somatic and etiological factors, in that success crowned these efforts.

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#### THIGAN.

Edmund Saalfeld reports on thigan (*Münch. med. Woch.*) Benefit had been obtained with this preparation in the treatment of gonorrhoea. It is a solution of thigenol and silver and of such strength that one c.c. contains one mg. of silver. When it was first used, sodium chloride was added, but the results obtained without the addition of sodium chloride are the same. Ten c.c. of thigan are injected into the anterior urethra and allowed to remain for fifteen minutes. The injection is repeated from three to six times daily, depending upon the acuteness of the infection. It should be continued for a period of one to two weeks after the smears are negative. Its advantages are that it is not irritating; that the secretion is rapidly diminished; that the subjective symptoms are improved, and that gonococci are made to disappear. As it is not irritating, it can be used in the catarrhal stage of gonorrhoea.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

JULY, 1915.

No. 7.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

## GIANT CALCULUS OF THE RENAL PELVIS AND HYPERNEPHROMA

BY DR. ALEJANDRO NOGUEIRA

History of the case. F. A. 50, married, farmer. No antecedents of interest until the beginning of the present trouble. Some nineteen years ago the patient fell from his horse and at first could not rise; according to the custom of the farmers, he passed some urine and applied it as a remedy to the bruised spots; he noticed then that his urine was red in color. He succeeded in raising himself and in spite of a pain in his loins he rode to the next village where he consulted his physician. Hematuria without clots continued for four or five days and ceased under the treatment prescribed by the physician; the left lumbar region remained somewhat tender; two years later the patient had nephritic colic on the left side without hematuria or passage of concretions, without fever or troubles of micturition. The pain followed exactly the direction of the ureter; those colicky pains returned at long intervals, generally a year, the pain lasting two or three days with periods of rest.

Nine years ago the patient was examined twice in Montevideo; vesical exploration with Guyon's bougie gave negative results; patient was told there was nothing the matter with his kidneys.

Four years ago hematuria reappeared whenever patient made any exertions; especially when he rode horseback; it lasted two or three days and stopped after a period of rest. Patient never had nausea or fever; never passed clots or concretions and never feels pain of any sort.

No motion causes any pain in the renal region. The last

hematuria, caused as usual by horseback riding, took place a month ago.

The patient mentions that on frequent occasions he felt a sensation of heaviness and pain at the flexure of the spine when standing on his feet, and he localizes the pain at the level of the left iliac fossa; rest in bed causes all pain to disappear; general condition not affected.

Examination. Subject is heavy, muscular and of robust appearance; no superficial edema; mucosae have a healthy coloration; pulse is full and regular. Nothing abnormal in the cardiovascular and respiratory tract.

Abdomen. Panniculus adiposus abundant; two cutaneous scars in the umbilical region caused by bullet wound and extraction of the projectile; liver normal.

Urinary Organs: Right kidney and ureter normal. Palpation is difficult on account of the size of the abdomen; bimanual palpation, however, reveals clearly in the lumbar fossa a tumor the size of the fist, hard, smooth, rounded, which is prolonged at its upper end by a smaller, thinner and softer one to which it adheres firmly; that tumefaction is floating, following feebly the respiratory motions, and is very sensitive to compression. When I place the patient on the left side to practice the Israel palpation, the tumor falls along the median line, and I could seize it and push it back into the lumbar fossa. The character of that tumor can be ascertained with the hand palpating the abdominal side; the hand palpating the lumbar region can only help to throw it forward. The ureteral tract is not painful; there is a colicky sonority in front of the tumor. Palpation reveals then a formation of stony consistency adhering to the lower lobe of a kidney not enlarged but somewhat prolapsing and rather loose.

Quantity of urine passed, 2800 cc. acidity 1015, U. 16.39. Cl. 7.02. Traces of albumin, sediment, a few bloodcells, few leucocytes.

Cystoscopy. Bladder, capacity 200 cc, mucosa normal; ureteral orifices normal and shaped like straight slits.

Internal Examination. Both ureters are explored with Albaran catheters No. 14 (Filière Pasteau). The catheter encounters in the left ureter a small obstacle at a depth of 15 cm.; it can then pass and enters to a depth of 25 cm. The catheter enters the right ureter to a depth of 25 cm. Normal passage of urine on both sides. 10cc of liquid injected into renal pelvis after examination causes pain in the left side.

RIGHT SIDE  
 Urea 15.37; quantity passed  
 in 1 hour, 0.69.  
 Chlorides, 10.06.  
 Albumin, 0.28 (blood)  
 Sediment, (many red globules).  
 Indigo-carmin begins to appear after  
 11 minutes and increases somewhat  
 in intensity.

LEFT SIDE  
 Urea 14.9; quantity passed  
 in 1 hour, 0.61.  
 Chlorides 6.31.  
 Albumin, 0.16 (blood).  
 Sediment, (many red globules and  
 a few leucocytes).  
 Indigo carmin hasn't begun to ap-  
 pear after 20 minutes.

Right kidney satisfactory and healthy; left kidney's activity decreased especially as far as elimination goes; kidney slightly infected.

Radiography. (Dr. Butler) The results of this examination are most interesting. On the right side the shadow of the kidney is normal; on the left side the examination reveals the following facts described by Dr. Butler himself:

"Complete radiographic examination of patient F. N. E. reveals in the part of the radiograph corresponding to left renal region a shadow extending from the 11th rib to the transversal apophysis of the 3d lumbar vertebra. This opaque shadow, uniform and with a very definite outline, rounded at its internal, lower and external ends, measures 12 cm. at its vertical diameter, and  $9\frac{1}{2}$  cm. at its horizontal diameter. The distance between its internal outline and the median line is  $4\frac{1}{2}$  cm.

"Its unusual shape and size do not permit me to diagnose surely at present renal lithiasis. Besides a large calculus in the renal pelvis or the kidney itself there may be a tumor or a cystic formation with a strong deposit of calcareous matter.

"To describe its location accurately I might say that judging from its size the formation must occupy almost all the left kidney and its pelvis, that is the region which according to Bazy and Moyrand is occupied by calculi of the pelvis, and besides the region corresponding to the renal parenchyma. When the surgical intervention took place it could be seen that this was a calculus of the renal pelvis. It is interesting to note that in spite of its location this calculus does not affect a triangular shape, that its lower and internal edges are perfectly smooth and that it does not present the appendage (what Fenwick calls the nose) directed downward and inward which we observe on calculi which formed within the pelvis.

"The absence of that appendage can be explained by the fact that, contrary to what generally happens, the calculus had completely distended the renal pelvis and modified its shape and size.



"If the shape of the calculus deserves notice, so does its size. After perusing the medical literature relative to radiographic explorations of the urinary tract I failed to find mention of a renal calculus having attained such dimensions."

**DIAGNOSIS.** The size of the radiographic shadow and of the stony tumor and the fact that its shape coincided with a kidney functioning in almost satisfactory manner and that the syndrome was so little painful, made me reluctant to accept the diagnosis of a calculus. Given the peculiarities of the clinical description, I was inclined, without being positive in my belief, to suspect a hydatid calcareous cyst of the kidney; this diagnosis was made plausible by the shape of the tumor and the radiographic shadow of its lower pole and lateral outline, by the slow growth of the affection, which began with nephritic colic without passage of concretions, and ended with a relative latency without marked infection, the general and local condition of the patient remaining unchanged. The hematuria following exertions, the only symptom of the trouble in the last few years, could be explained by the traumatic action of the calcareous cyst upon the delicate renal parenchyma. The intensity of the radiographic shadow could be easily explained by a cystic capsule of average thickness. The usual projection of a cyst in other parts of the organism is well known; only recently Marion published a radiograph of a hydatid calcareous cyst of the pelvis; in a work I am preparing on hydatid renal cysts I cite the operation of an intrarenal cyst with a thin calcareous capsule which on the radiographic print showed a well defined shadow. In the palpation of the tumor, however, I was surprised by its hardness and the impossibility of provoking any crepitation by compressing its walls.

**OPERATION.** June 14. Chloroform. Ether drop by drop. Doctors Albos and Iraola in attendance.

Oblique lumbar incision 25 cm. in length; enormous panniculus adiposus; remarkable muscular development; after exposing the perirenal fat the hand loses itself in a sea of adiposity of soft consistency; after introducing the hand into the lumbar fossa, I feel in its lower internal part a tumor the size of an orange, extremely hard and heavy, which is brought easily into the wound as it does not adhere to the perirenal fat. With it comes the kidney, which adheres to it, presenting its internal edge and its lower pole. It was difficult to expose the kidney on account of the quantity of perirenal fat and the thickness of the abdominal wall: it was particularly difficult to expose the higher half where

the fat, unusually abundant, adhered firmly to the renal parenchyma.

The finding of a tumor at that level made the work of exposing the kidney very delicate, for the perirenal fat had to be removed.

I discarded my first diagnosis when I noticed the consistency and weight of the tumor. The presence in the superior pole of the kidney of a tumefaction which I took to be another cyst, the thought of the damage entailed by the decortication of a stony tumor, considering its intimate connection with the renal hilum, or by its extraction from the renal cavity, considering its volume, convinced me that nephrectomy was imperative. This was performed without difficulty. Bougie and drain; suture of the abdominal walls.

Postoperative condition satisfactory. No fever; the quantity of urine rises to 700 cc. the first day, to 1000 the second; after eight days a thorough examination revealed a normal condition. After 15 days the patient left the hospital; the wound was entirely cicatrized the 20th day and the patient was entirely cured, his general condition being excellent.

Excised organ. Enlarged kidney; surface shows slight depressions. Upper pole: surface adheres in many points to the fatty capsule, leaving after dissection many hemorrhagic spots; in the region of the hilum and renal pelvis a tumor the size of an orange, smooth, consisting in a greyish membrane similar to that of the pelvis, adhering to the lips of the renal sinus, and enveloping a hard and rounded body perfectly fixed and adapted to its covering; at the lower pole of this membrane, there is an orifice corresponding to the ureteral implantation; the vessels of the hilum penetrate it and pass in front of the membrane. Size of the kidney: longitudinal diameter: 16 cm.; transversal diameter of the upper half 7 cm., at the level of the pelvis 16 cm.; transversal salient of the pelvis where it protrudes out of the renal mass 9 cm. Section of the kidney, the renal substance appears normal in aspect and coloration: its thickness differs very little from that of a normal kidney, which explains the normal activity of the organ; at the upper pole there is a rounded part corresponding to a tumor the size of an egg imbedded in the renal substance, and separated from it by a well defined capsule which merges itself without any definite transition into the surrounding glandular tissue; on its outer surface the capsule is well defined, thicker, fibrous and holds debris of the adipose renal capsule. A

dissection of that zone shows yellow matter with a few small hematic cysts; in every respect the appearance of a tumor of Grawitz.

At the level of the pelvis there is thick peripelvic fat; the calices are enlarged and their mucosa is normal; where they open



into the cavity of the pelvis we find a hard, rugous black body; it is a calculus which fills the pelvis, enormously dilated and pushed outside of the renal sinus; after extracting the calculus we see that the pelvic walls are very thin, in some places even transparent with small hemorrhagic spots but no traces of infection. The calculus is an enormous rounded mass weighing 400 grammes, longitudinal diameter 11 cm., transverse diameter 7.5 cm., greatest circumference 22 cm.; its color is brown, its

surface finely granulated and somewhat arborescent at its lower pole, which is extremely hard. At this point I incised the surface and noticed that it consists of an envelope very soft on its inner surface, 3 mm. in thickness, composed of urates and oxalate of calcium, and of a nucleus of urates, oxalates and phosphates.

The curious shape of the calculus is worthy of attention; round and pyriform, it presents on its internal face four nipple-like projections separated by well defined furrows; one at the top of the calculus, corresponding to the upper calyx; two median projections on a level and corresponding to the median calices; one further down flattened and corresponding to the lower calyx and its two bifurcations. This is a perfect cast of the cavity of the pelvis; to extract the calculus we had to resect the strong bundles of the calices which strangulated the base of the projections.

Histologic examination of the tumor showed a benign hypernephroma (what the French call adenoma with transparent cells), transparent cells with a well defined central nucleus, separated from the connective vascular axes, according to Stoerk's description; the renal tissue surrounding it presented to a slight degree the characteristic atrophic retraction; elsewhere its appearance was normal. The wall of the pelvis was reduced to a capsule of connective tissue, fibrous in places; the submucous completely crushed, the epithelium crushed in many places, in other places, corresponding to hemorrhagic focuses, entirely lacking: vascular neoformation and leucocytic infiltrations.

This case suggests interesting considerations. Let us first of all consider the weight and size of the tumor. Large renal calculi are generally ramified and therefore cause the destruction of the renal substance and generally an infection. Fenwick in his excellent book on radiography in the treatment of urinary calculi cites a case he personally observed: a round calculus weighing 6 and  $\frac{1}{4}$  ounces with a kidney reduced to a mere fibrous shell; another calculus weighing 6 and  $\frac{1}{4}$  ounces, extremely ramified; Legueu in the French Encyclopedia of Urology reviews the giant calculi known as classical cases but remarks that the largest ones were removed at the time of the autopsy: Pohl's calculus weighing 2½ kilos; Letulle's and Brun's, 2 kilos; Le Dentu's, 1 kilo; De Routier's, 575 grammes; Renaut's, 478 grammes. Among giant calculi removed surgically he mentions the calculus of Burgos, 155 grammes, 13 cm. around; that of Pelz weighing 339 grammes; and his own weighing 180 grammes.

All of those were ramified calculi. The literature of the subject reveals no calculus similar in size, weight, shape or location to the one I removed. The same applies to its radiographic shadow. This case and another case of a ramified renal calculus whose weight I could not ascertain, as I did not wish to destroy the removed kidney, but which must have weighed about 200 grammes, contradict Professor Pousson's statement on page 489 of the French Encyclopedia of Urology (a statement regrettable for our scientific literature) that according to Saurel cases of calculus are extremely rare in Montevideo and that people born in Uruguay are completely exempt from that trouble.

The growth of the calculus in this case is also very interesting. The renal substance, which is so soft and always yields to the pressure of a growing calculus, opposed to it in this case a powerful resistance, so much so that the nipples of the calculus barely penetrated to a depth of one or two centimeters into the calices.

The growth of the calculus was eccentric and took place within the pelvis; it dilated it considerably, pushing it outside of the renal substance, exactly as a sacular hydronephrosis would have done.

The foreign body filled up the pelvis and during its long period of growth never prevented the passing of urine, as the pyelitic walls were applied closely to it without interposition of any liquid. The lack of distension of the calices makes me suppose that the intrarenal pressure was never very strong while the calculus was growing. The only possible hypothesis is that there was previously a hydronephrosis which, considering the extraordinary shape of the calculus, may have had something to do with the initial traumatism of the case.

The salts of the urine deposited themselves in that cavity until they gradually formed the present calculus. It is difficult to assign any age to a calculus. The present one must be rather old. The first stage of the disease, characterized by nephritic colics without passage of concretions, may have corresponded to the period of pure hydronephrosis or may have been due to the presence of a loose pyelitic concretion which in its displacements could obturate the ureter. Did that concretion cause the hydronephrosis? Every one of the hypotheses is reasonable and worth considering in order to explain the exceptional shape of this calculus. If I had to decide for one thesis I would incline toward the following: the traumatism, initial stage



of the trouble and which was indisputably of renal nature, induced hydronephrosis through a factor which we may call X and the nature of which could not be determined nineteen years ago by an examination of the region and of the kidney; that hydronephrosis revealed by nephritic colic in the first period of the trouble favored the formation and the growth of a calculus in a cavity which already existed. While the calculus was forming the urine could be passed easily and the calculus being immobilized by its very size did not cause any great pain.

It is also curious to notice the toleration by the organism of an extraneous body weighing 400 grammes, dragging on the kidney, which had become floating and pulling down the renal pedicle. That pulling only occasioned from time to time a disagreeable sensation in the anterior part of the abdomen when the patient would bend down; it disappeared, however, when the patient remained in a horizontal position.

It is difficult to explain why a calculus of that size did not cause any infection: this is the probable reason why the renal parenchyma was not more damaged.

We observe the simultaneous existence of a tumor of Graewitz. Albarran and Imbert cite 26 similar cases and from time to time the medical press mentions isolated cases of such a combination. The authors mentioned above suppose that the calculi favor the formation of that neoplasm; this, however, could not be affirmed without perfect knowledge of the pathogeny of tumors. Taddei suggested in 1908 that a cancer induces lithiasis on account of the presence of coagulates or epithelial debris which serve as centers of crystallization. This hypothesis, very logical, must be true in many cases and Legueu accepted it fully. In our case, the small size of the tumor leads us to suppose that it was much more recent than the calculus; we must admit that in the present case the presence of tumor and calculus in the same kidney was a mere coincidence.

Translated for THE AMERICAN JOURNAL OF UROLOGY.

## A GIANT CALCULUS OF THE URETER

By P. A. SPECKLIN, Strassburg.

My justification for adding this contribution to the already copious literature of ureteral calculi, is that the case presented several clinical peculiarities and that the calculus itself was of a size which is not observable in every day practice.

L. Male. Merchant. Age 48. No family antecedents of interest, barring an operation for renal calculus performed on patient's cousin. Patient suffered at seventeen from pulmonary inflammation but hadn't had any serious sickness until affected by the urinary trouble which has made an operation necessary. Patient indulged in alcoholic beverages until his thirtieth year, after which he became almost totally abstinent.

At the age of eighteen the patient complained for the first time of pains in the left side, loins and abdomen. During his two years of military service he had pains of a colicky character lasting from one to four days at a time. In the following years the same pains recurred frequently but the patient cannot remember whether they were consequent upon especially hard work; neither does he mention the characteristic radiation of pains in the side.

Twelve or fourteen years ago the patient noticed at the time of an especially severe colicky attack that his urine contained blood; whereupon the pains ceased; since then he hasn't been troubled with any pains; only a slight temporary sensation of pressure in the abdomen reminded him two years ago of the suffering he had undergone.

For the past year the urine has been turbid and like "beaten white of egg" and contains a brick colored sediment. There is no ardor urinæ and the patient does not remember having passed any calculus. At the time the urine was the color of blood but the coloration decreased when the patient avoided all exertions.

At the time of the first examination, November 8, 1913, the urine was the color of meat serum, contained epithelial shreds, healthy red blood corpuscles, a rather large number of leucocytes, no cylindroids and no tubercle bacilli. Testicles and inguinal glands without pathological indications; prostate large, medium hard. No indications from abdominal and rectal palpation.

Cystoscopic examination performed by Dr. Adrian: Vesical cavity contains no foreign body; strong trabecula, slitlike divert-

icula, no irritation of the mucous membrane, no trace of cystitis. Opening of right ureter: uninflamed small slit surrounded by edematous tissue; contractions at regular intervals. Opening of left ureter: prolapsing, inflamed, ugly crater surrounded by swollen masses due to edema bullosum; this region is sharply separated



Fig. 1.



Fig. 2.

from the rest of the otherwise normal vesical mucosa; contractions are visible; no admixture of blood in the trickle of urine; prostatic region normal. Probable diagnosis: tuberculosis of the left kidney.

Other examinations of the urine on November 14, 21 and 28 for tubercle bacilli gave negative results. On December 5

chromocystoscopy led to the right diagnosis. Intramuscular injection of indigocarmin; the opening of the right ureter is visible as an absolutely normal slit from which at regular intervals comes a strong blue jet. The opening of the left ureter shows as it did a month before, an inflamed, puckered crater in whose mouth is impacted a light yellow concretion the size of a pin's head, which at the beginning of the contractions is slightly pushed forward and then drawn back but remains visible even in the intervals separating the contractions of the opening. No blue jet, doubtful trickle of urine but considerable vermiform contractions of the whole region. Diagnosis: impacted calculus of the left ureter.

Patient advised to submit as soon as possible to an operation but he only consents to it at the beginning of 1914.

An X ray picture taken on February 3, 1914, by Dr. H. Block confirms the diagnosis, as the ventrodorsal radiograph reveals in the lower left parasacral region a large shadow elongated in shape and with a knoblike projection in its middle.

Operation, February 5. Dr. Ducros. Chromocystoscopy having shown the worthlessness of the left kidney, nephrectomy is performed through incision of the loin by the Simon method, incision which in the course of the operation is extended according to the regular technique forward and downward along the crest of the ilium; the ureter, swollen up to the size of a finger, is opened with a downward incision until the concretion is reached, after which the concretion is removed with a spoonshaped forceps; the ureter is detached as far down as possible and excised, the wound brought together and a drain put in.

The pelvis of the removed kidney, greatly enlarged, contains in a light liquid a calculus weighing 16 grams, the presence of which had been revealed by the radiograph. The kidney itself is enlarged and affected with cystic degeneration: its surface is raised by several cysts the size of a walnut. The wall of the entire ureter is thickened.

Recovery without fever. On March 28, wound is forming granulating tissue and is almost closed; urine steadily clear and free from albumin. Patient discharged.

Description of calculus (shown in actual size by illustration 2). The calculus of the ureter removed by operation weighs 51 grammes and is 11 cm. long from end to end; its total length along the outer curve is 12 cm. At the end which was nearer the bladder one can see the sharp point which permitted to make the diagnosis by cystoscopy. The knoblike projection visible in the

radiograph is located at the upper end of the middle third. The color of the calculus, or at least of its brittle outer strata, is mostly light brown.

Our illustration shows the calculus from the back as it appeared in the X ray picture, but avoiding on purpose the foreshortening due to perspective noticeable in the radiograph.

About the middle of the concretion, the upper and lower arm are joined by a narrow elbow at an angle of 150 or 160 degrees as though in situ the lower arm had been forced to deviate from the direction of the upper part forward, downward and toward the middle.

I fail to find in Schwalbe's "Anatomy of the Ureter" any explanation for this elbow located between the flexura marginalis and the opening of the ureter; on the other hand the narrowing of the elbow might indicate the boundary line of the two enlargements which according to Schwalbe are observable in the pars pelvina of the ureter. The two illustrations give no idea of that elbow angle as they were taken from an oblique plane.

In the literature of the subject I only find the following cases of concretions of similar size: (2) Fedoroff, length 19 cm, weight 52 grammes; (3) Rovsing, length 18 cm, the width of a bean; (4) Israel, case 1, length 13 cm, circumference 9 cm, weight 54.4 grammes; case 2, (5) length 17 cm, circumference 9 cm; (6) Pozzi, weight 34.5 grammes; (7) Lloyd, length 5½ inches, circumference 2½ inches.

1. Schwalbe. Zur Anatomie der Ureteren. Supplement to Anatomischer Anzeiger, 1896, pages 155 ff.
2. Fedoroff. Zur Kasuistic der Uretersteine. Zeitschrift für Urologie, 1909, Vol. 3, p. 65.
3. Rovsing. Erfahrungen über Uretersteine. Monatsbericht für Urologie, 1901, Vol. 6.
4. Israel. Berliner klin. Wochenschrift, 1907, No. 33; the same calculus is described by Bloch in Fol. Urologica, Vol. 4, 1890, Case 18.
5. Israel. Berliner klin. Wochenschrift, 1907, No. 33. Same case described by Israel in Chirurgische Klinik der Nierenkrankheiten, Berlin 1901, Case 187, 67.
6. Pozzi. Congrès international de médecine, Paris 1900. Report of the section of general surgery.
7. Lloyd, cited by English in Wiener Med. Wochenschrift, 1903, p. 1359.



EXPERIMENTAL AND CLINICAL WORK ON  
STERILITY.\*

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**S**TERILITY or barrenness is a condition that has been known for ages. The cause of the sterility has usually been considered as being in the female as long as the male member of the family could perform satisfactory coitus. It has only been relatively recently that a more careful study of sterile couples has disclosed the fact that about 25 per cent of the men of sterile couples have no spermatozoa in the semen at all and consequently are absolutely unable to impregnate their wives. These more careful and technically efficient examinations have further shown that many of these men have spermatozoa but these sperms are deficient in vitality, in motility or in some of the essential structures, such as the chromatin or centrosomes. Further studies along these lines are required before any very definite data will be available.

Ivanoff's experiments have shown that sperm taken from any portion of the vas or epididymis is developed sufficiently to produce normal pregnancy and normal young. Spermatozoa taken from the testicle have never produced pregnancy.

At a temperature around 60-75 F. sperm in the condom will remain actively motile for four to six hours, then they will gradually begin to move less and less rapidly and an increasing number will be seen motionless. In 12 to 16 hours all of the spermatozoa will be motionless.

Spermatozoa will live only a very short time in the normal vagina. Most of the sperms are motionless in 15 minutes to one hour, but occasionally they are found actively motile as long as three hours after coitus.

In the cervix the spermatozoa live and retain their motility for hours, and they have been found alive in the cervical secretions for as long as five days. In the fundus and fallopian tube live spermatozoa have been found eight days after coitus. [I question these findings. W. J. R.]

The spermatozoa are free cells and as such are markedly influenced by their environment and the chemical and enzymotic properties of the media into which they are thrown. Purulent discharges contain strong proteolytic enzymes capable of killing and in many instances dissolving the spermatozoa. It has been shown experimentally that spermatozoa, after coitus, penetrate into the abdominal cavity in large numbers. From here

\* Illinois Med. Jour.

they are absorbed by the leucocytes, producing lytic bodies in the serum of the woman for spermatozoa and consequently rendering her sterile.

It is also possible, but as yet unproven experimentally, that the secretions of certain women are normally agglutinative and hence destructive to the spermatozoa of one individual and not to another, thus accounting for those cases of sterility where both individuals have children by subsequent marriages.

A recent test for paternity has been based on this formation of anti-bodies to spermatozoa. By it for medico-legal or other purposes the father of any particular babe may be determined. The test depends upon the fact that the mother and babe are sensitized to the sera or sperm of the male individual who produced the pregnancy.

*Radium*.—Sperm exposed to radium for a few minutes will impregnate and produce deformed individuals, but if the radium exposure is prolonged to an hour or so impregnation takes place and no monsters are formed, but the offspring have none of the characteristics of their father. The chromatin of the spermatozoa has been destroyed and we have practically a parthenogenetic impregnation.

Loeb produced parthenogenetic individuals from the ova of sea-urchins, and he tried to reverse the problem and produce individuals from the spermatozoa alone without the assistance of any ova. He was able to develop the spermatozoa into a nucleus and then it invariably died.

Cole has shown by a series of very interesting experiments that sperm from alcoholized and leaded individuals are profoundly altered.

If an alcoholized male and a normal male are allowed to serve a normal female practically simultaneously, all the offspring will be from the normal male. If two normal males are used, the offspring will be practically half from one and half from the other. If the alcoholized male is used alone, he will beget offspring alone, but none when his sperm is mixed with the sperm from a normal animal. The same experiment, only using a normal male and a leaded male, shows an equal number of offspring from each, but a large percentage of those from the leaded male die during the first few days of life.

*Diagnosis*.—The diagnosis of a case of sterility is not a particularly easy or simple matter. The first step should be the obtaining of a specimen of semen in a condom. If this specimen

shows no spermatozoa, we ask for another, and if the second one shows no sperms, we can feel sure that the pathology is in the man.

If the condom specimen contains spermatozoa we note their motility, the size of the head, the length of tail, the curve in the tail when the sperms cease motion and the length of time the motility persists. Next the wife should have a routine gynecological examination. Then if the conditions are normal a sound should be passed into the uterus. The reaction of the cervical secretions should now be determined and some cervical secretion obtained. Some blood serum from the woman should be obtained. The cervical secretions are mixed with the spermatozoa of the husband and examined by a hanging drop to see what effect, if any, they have on the motility of the sperm. The blood serum of the wife is now mixed with the husband's sperm and examined under the hanging drop. Next the wife is told to report at the office at varying periods from one to ten hours after coitus and the vagina and cervix secretions are examined for spermatozoa. If the sperms are all dead in the cervix one to two hours after coitus, we know that the secretions of the fundus or cervix are destructive to spermatozoa. If the spermatozoa are still alive and moving vigorously five to six hours after coitus, we know the spermatozoa are all right and the cervical and uterine secretions are all right, hence the pathology must be in the tubes or ovaries.

If the spermatozoa cease motion in an hour or so after being mixed with the cervical secretions, we know the secretions are hostile and we should mix the semen with an anti-enzymotic sera and do an artificial insemination.

If the fresh sera of the woman causes the sperm to cease motion in a short time, an appropriate anti-sera should be prepared and mixed with the semen and an artificial insemination performed.

*Treatment.*—The obstructive cases are curable only by operation. Diagnosis of the site of obstruction is not possible until the scrotum is opened and the vas exposed and opened. Injection of the central end of the vas with a colored salt solution will establish the patency or nonpatency of the tube from the point of incision through into the urethra. Aspiration of the distal end of the vas will establish the patency of the epididymis and the vas down to the point of incision. The treatment depends upon the location of the obstruction.

1. If the obstruction is in the tail or lower part of the body

of the epididymis, we should perform the operation of vas-epididymostomy.

2. If the obstruction is in the scrotal portion of the vas, cut out the obstruction and join the severed ends of the vas.

3. If the obstruction is in the pelvic portion of the vas, perform the Lespinasse sac operation.

4. If the obstruction is in the ejaculatory duct, catheterize the duct if possible, and if this fails perform the sac operation.

Frequently the spermatozoa found in these closed testicles are dead, though normally formed. After the testicle is opened and all the old sperms are removed, the new-formed sperms gradually develop more and more motility. Hence do not expect a pregnancy for six months at least.

#### CONCLUSIONS.

Demonstrable defects in the male are responsible for about 25 per cent of all sterility, most [Most? I would rather say a few—a very few—Ed.] of which are curable by properly performed operations. Destructive enzymes in the slight discharges that many practically well women have are responsible for many cases of sterility. Lytic anti-bodies may be present in the blood of many women. By appropriate anti-sera and anti-enzyme measures many of these cases can be cured.

GONORRHEA IN A BOY OF SIX AND IN A BOY  
OF THREE.\*

BY WALTER D. BIEBERBACH, M. D., WORCESTER, MASS.

On March 23, 1914, the father of a family of three children consulted me at the genito-urinary clinic at the Worcester City Hospital in regard to a male child of the age of six years. He complained that during the past ten days the child was very restless and had considerable trouble in passing his urine.

On examination a boy of six years of age, well developed physically, presented a marked case of phimosis. There was considerable narrowing of the preputial orifice, so much so that it was impossible to retract the foreskin over the glans penis. About the margin of the prepuce was a copious white discharge. The foreskin was tender, edematous and congested.

At this visit a diagnosis was made of phimosis, the cause being balano-posthitis due to a long tight foreskin. The treatment advised was circumcision and on the following day the child was operated upon.

On account of the marked edema, circumcision was performed under ether. A dorsal incision was made and the flaps were trimmed. The edges were sutured with silk-worm gut.

Some few hours following the operation the child was unable to pass his urine. The dressings were removed and the external meatus was found to be pouted and swollen and glued together. On separating the lips of the meatus there was a free flow of thick white pus which relieved the child, thus allowing him to pass his urine. Microscopical examination of the pus showed a number of Gram negative diplococci both intra and extra cellular. Cultures were made which showed the presence of gonococcus.

A few days after, the mother brought to the clinic the youngest child who was three years old, complaining that he was having similar trouble as his brother.

On examination he presented the same condition as the first. In this case the foreskin was retracted over the glans penis thus showing a free urethral discharge. On microscopical examination the pussy discharge showed the presence of gonococci both by staining and culture. In the case of the boy of six both urines were cloudy, containing pus and a number of shreds. The first urine of the boy of three years was cloudy, the second clear.

An attempt was made to learn the source of infection. The mother and father were asked to submit to examination, also the remainder of the family, which consisted of a girl thirteen years of age and a boy eighteen years old. This boy was a step-brother to the other children, his father having been dead for the past few years, and this being his mother's second marriage.

The mother and father denied all venereal disease and on

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\* Boston Med. and Surg. Jour.



examination were negative. The oldest boy of eighteen gave a history of suffering from an acute attack of gonorrhoea four months ago. He had been under the care of a physician and one month ago was pronounced cured. To date he has had no signs or symptoms of the disease. Examination in his case showed no sign of infection and I would say that he was cured. A gonorrhoeal complement-fixation test was done and reported as negative.

Examination of the girl of thirteen years showed that she had a ruptured hymen and on separating the vaginal wall there was a somewhat free, thin greyish discharge which on microscopical examination showed the presence of gonococci. Smears made from the urethra were negative. From the absence of the acute symptoms and the microscopical picture I would say that the girl was suffering from a sub-acute or chronic gonorrhoea.

The fact that the three children were suffering from gonorrhoea was all that I was able to obtain. It was impossible to get a clear history of any of the cases.

The mother and father could give very little information as to the source of the infection. They stated that the boy of six years and the girl of thirteen attended school every day, while the child of three was kept at home. Furthermore, none of the children was away from home for any length of time. I thought that if someone was sent to the house of the parents to investigate the mode of living we might be able to come to some opinion as to the source of the infection.

The cases were reported to the Society for the Prevention of Cruelty to Children and thru their kindness a female agent was sent to investigate the living conditions of the family. Each of the children was questioned closely but no information could be obtained from the two boys suffering from gonorrhoea. They were very stubborn and refused to answer questions. The girl of thirteen was taken into a room alone and after careful questioning admitted that six or seven weeks before, while the parents were away one afternoon, the oldest boy of eighteen years placed her on his lap and attempted sexual intercourse. Following this attack she suffered considerable pain and for some time afterwards experienced a burning sensation on urination. She said nothing to her parents of what happened; the reason for this we were not able to have her explain.

On the day of this examination the boy of eighteen learned on his return home that an agent of the Society had been to the house to investigate the cause of the infection. Confronted by his mother on what had transpired he immediately turned about, left the house, and to this date has not been seen or heard from.

#### CONCLUSIONS.

The source of infection in the two young children was from the girl of thirteen. The three children occupied the same bed.

I believe that sexual relations had occurred between the girl and two younger boys. The sexual organs of both male children were well developed and much larger than the average child of the same years.

The girl's infection dates back to the time that she states that the older boy of eighteen attempted sexual intercourse with her. At that time the boy was suffering from subacute gonorrhoea and I believe infected his stepsister.

I do not believe that the infection of the two boys could have been obtained from bed clothing or contaminated articles of the household, because during the supposed period that the girl was suffering from her acute infection the two boys were free from urethral infection. While it is possible for the male to become infected from articles that contain fresh gonorrhoeal pus, it is more probable that such infection would take place from sexual intercourse.

#### CARE AND TREATMENT OF THE TWO BOYS.

Prophylaxis was placed on both cases. The mother was instructed as to the pussy discharge and ordered to burn all dressings. She was also warned of the dangers of gonorrhoeal ophthalmia. The children were placed on a non-stimulating diet. Excess of meat was avoided, also highly seasoned salty food. Liquids were restricted to milk and water, water being used very freely.

For the purpose of catching the urethral discharge and keeping it away from the clothing, a small bag was made in which the penis was carried. Absorbent cotton was placed in the bottom so as to catch the discharge.

The boy of three years was given ten drops of thyresol daily, while the boy of six was given fifteen drops. From these doses their stomach or kidneys showed no irritation and they were able to take this amount during the course of treatment.

In both cases the anterior urethra was irrigated every other day with a solution of protargol. I started with a solution of 1:8000 and gradually increased the strength up to 1:4000. Irrigation was performed by inserting a soft rubber catheter into the anterior urethra and gently forcing the fluid thru by means of a large hand syringe.

At the end of the first week the boy of six years developed a posterior infection. This was treated by placing the catheter in the posterior urethra just behind the cut-off and gently irrigating the canal. After a few irrigations of the posterior urethra it cleared. At the end of the second week both cases showed very little urethral discharge and on microscopical examination few gonococci were found, the first glasses being turbid, the second clear. At this stage of the disease instillations were substituted for irrigations.

One dram of a quarter of one per cent. of protargol was instilled into the anterior urethra and retained five minutes or until the child complained of pain. This was performed every

other day and the strength of the solution was increased until five per cent. was reached which seemed as strong as either child would tolerate.

At the beginning of the fourth week both glasses became clear and the urethral discharge subsided. On stripping the urethra no discharge was obtained. Smears taken from the anterior urethra by means of a swab were negative.

All treatment was stopped and the children were kept under observation for two weeks. At the end of this time no signs or symptoms of the disease being present, they were discharged as cured.

### A CLEAR CASE OF SEXUAL PERVERSION.\*

BY J. N. VANDER VEER, M.D., Albany, N. Y.

Cases of perversion against nature's normal use of the genital organs are not infrequently discovered by the careful medical man, either in the taking of a history or in making a physical examination; but they do not often find their way into the medical literature at the time unless a series of such a type presents itself.

The following case may be of interest as representing a problem rather difficult of solving, owing to its unique character.

Mr. D. M. was sent to me August 9, 1913, by Dr. Reynolds of this city, with the statement that he had about a half ounce of paraffin in his bladder and wished to have it removed.

Mr. M. gave a history of having some sixteen years ago suffered from a gonorrhoea, which he treated himself and was cured in two months. For some time after he had a stricture (prostatitis or vesiculitis?) which he cared for with a sound, but for ten years past he has been perfectly well, has married, and now is the father of two children. He has always been very passionate and sexually inclined, but occasionally has had no sensation in ejaculation.

About July 15th, his wife "went to the country" to spend the summer, while he stayed at home, and worked at his usual vocation of railroad engineer.

On July 29th, he felt a "tickling" in his deep urethra and prepared himself for a sexual debauch, but thought he ought to "stir up his privates to make sure they would work properly."

Having nothing at hand for this purpose he bethought himself to make a sound which would reach the desired spot. So he rolled up some paper over two lead-pencils, placed lengthwise, and in this way made a form, into which he poured some melted

\* Intl. Jour. of Surgery, May 1915.

paraffin taken from the top of jelly glasses in his cellar, thus making a sound to touch the spot. Lubricating this home-made instrument with vaseline he introduced it into his urethra and pushed it back as far as it would go, and then proceeded to draw it back and forth, until suddenly he had a spasm of his sphincter muscle, a sharp pain, and on withdrawing his sound he noted that only about one-half of it came away.

He felt ashamed of his act and did not seek medical advice until August 4th, and even then he did not tell the doctor of his act, simply complaining of a soreness in the bladder. The diagnosis of cystitis was made from the clinical symptoms and vigorous treatment instituted, but by August 8th the condition had grown much worse and he was referred to me, having confessed to his doctor of the act.

By forcing direct questions and pinning him down in his answers, I managed to obtain his whole story. So I cystoscoped him on August 9th, eleven days after the act was committed, and found a mass of paraffin floating in the bladder. This had lost all shape of the sound owing apparently to the low melting point of the paraffin. His bladder was markedly inflamed and exceedingly sensitive, and the problem then resolved itself into how the foreign body could be removed without a major operation. I dared not attempt the use of solvents in such an irritated bladder, and resolved to attempt the extraction of the paraffin by means of the operating cystoscope, or Young's cystoscopic rongeur, but finally was compelled to resort to a large sized lithotrite for the purpose of biting off chunks of sufficient quantity. By means of a local anesthetic I managed to render his urethra and bladder less sensitive, and then alternating the lithotrite and the cystoscope in their introduction. I removed the major portion of the mass with some six insertions by means of morcellment, and the last piece was taken out with the cystoscopic rongeur.

The after-treatment consisted in simply healing the cystitis, and a cystoscopy done September 8th showed the bladder to be perfectly free of its infection, and examination of the prostate and vesicles demonstrated that his genital tract was in a normal condition.

GUMMATOUS ULCERATIONS OF THE BLADDER—A  
CASE REPORT.\*

S. WM. SCHAPIRA, M.D., New York.

M. M., male, silk importer, 46 years old, American, married, has two children—a boy of 8 years and a girl of 6; both apparently healthy.

He contracted a chancre in 1897, for which he was treated for about two years and discharged as cured. In January, 1912, a rash appeared on the chest and hands and the family physician promptly diagnosed it as syphilis. Wassermann reaction then strongly positive. He received five intravenous injections of 0.6 salvarsan; the rash disappeared and the Wassermann reaction was repeatedly negative.

The patient was brought to me for cystoscopic examination September 12, 1914, with the following history: About four or five months before, he began to experience pain about the pubes, which was quite severe at times, and shortly afterwards he began to have frequent desire to urinate, as often as every 15 to 20 minutes, with no trouble at night, however. The urine was very thick, ill-smelling and cloudy. The doctor treated him for cystitis with bladder irrigations and urinary antiseptics internally, without any results. About a week before I saw him the patient began to suffer from frequency at night also and tenesmus. The man was very anemic. He had lost about 30 pounds in the last 5 months. The urine contained pus and bladder epithelia, but was otherwise negative. There were about 12 ounces of thick, bad-smelling residual urine. Rectal examination of prostate and seminal vesicles negative.

*Cystoscopic examination:* Bladder slightly congested, very trabeculated; ureteral openings normal; trigonum very congested. A circular, ulcerated patch with infiltrated edges and ragged base, with necrotic tissue the size of quarter dollar on the left side below the ureter; another, similar, but smaller, ulceration a little to the right of this one, and a white hard glistening tumor covered by mucous membrane a little away from the left ureteral opening.

I made a diagnosis of syphilitic ulcerations and hard gumma of the bladder, and took blood for a Wassermann test, which proved negative. In spite of this I gave the patient an intravenous injection of 0.6 salvarsan, and a week later had another Wassermann test made, which proved strongly positive.

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\* Amer. Jour. of Surgery.



*Treatment:* By air inflation of the bladder and through an operating cystoscope, I cleared away all the detritus from the ulcerations by curette and applied a 25 per cent. solution of silver nitrate to the ulcerations, tying a catheter in the bladder for 10 days, changing the catheter every 24 hours and irrigating the bladder with 1-5,000 iodine solution daily. Intramuscular injections of salicylate of mercury twice a week and inunctions of mercury every day; in two weeks I stopped the mercury on account of salivation, and I ordered potassium iodide 10 grains three times a day, increased to 50 grains a day.

The frequency and tenesmus stopped when I removed the permanent catheter and the urine cleared up at the end of the fourth week.

October 16: Cystoscopic examination shows normal mucous membrane except for the trabeculations; no ulcerations nor tumor found. The patient has gained about 8 pounds.

October 20: Wassermann test negative. Only mixed treatment given internally.

November 16: Wassermann test negative. All treatment stopped. The patient feels in perfect health, voids clear urine 3 or 4 times a day, none at night. He has gained about 15 pounds.

The points of interest in this case are:

1. The long delayed appearance of syphilitic ulcerations in the bladder after the initial lesion.
2. The negative Wassermann reaction turning to positive after an intravenous injection of salvarsan.
3. The quick response to antisymphilitic treatment.

## REVIEW OF CURRENT EUROPEAN LITERATURE

GONORRHEA AND ITS COMPLICATIONS IN SOLDIERS ADMITTED TO THE HOSPITAL IN THE FIRST MONTHS OF THE WAR.—*By L. Bizard, J. Declamp and J. Bralez.*

From the first of August, 1914, to the first of January, 1915, one hundred and four soldiers (one-sixth of the total admissions) were treated for gonorrhœa at the Saint-Louis hospital, service of Prof. Gaucher. Most of the cases were in bad shape; profuse discharge, cloudy urine in both glasses, occasionally cystitis, acute prostatitis, retention of urine, edema of the penis. This was due to lack of care at the front. However, patients without complications soon cleared up under appropriate hospital attention.

Some of the cases were of recent origin but the great majority were old gonorrhœas. Although a few of the latter admitted reinfection, the greater number seemed to suffer spontaneous reappearance of symptoms which had been dormant for years in some cases. The patients were much more likely to be cavalrymen or artillerymen than foot soldiers and it seemed that a month of hard campaigning sufficed to bring forth a discharge in men who had considered themselves cured for a long time. The discharge, though moderate, contained gonococci which had been lurking in the prostatic tubules ready to light up local or general complications. Such complications were not only frequent but very severe in the group of soldiers treated.

There were three cases of gonorrhœal rheumatism. Two cases complicated by icterus were of special interest. The first was a recent gonorrhœa, with prostatitis and acute retention of urine. These symptoms were relieved by a course of prostatic massage but presently the left testicle became inflamed. Although this resolved soon, the temperature kept rising and the patient lost weight rapidly. On the tenth day icterus developed and the patient soon presented the picture of a complete obstructive jaundice. The liver retained its normal dimensions. Three days later the jaundice faded, and the patient rapidly recovered.

The second case of icterus occurred in a man with a recent discharge complicating an old gonorrhœa. Two days after admission the patient developed an arthritis of the shoulder, jaundice, and fever. These symptoms all disappeared in one week.

Although no blood culture was made in either of the cases, the authors feel that in view of the absence of all gastrointestinal symptoms, the icterus was due to the presence of gonococci in the blood. It is noteworthy that in both cases the prostate was affected.

Affections of the vas deferens, the epididymis, and the testicle—in short gonorrheal orchitis—were very frequent. Twenty-six of the patients were so affected. Some of the patients in order to prolong their stay in the hospital deliberately produced such irritations that orchitis developed. It is well known that trauma fixes the gonococcus upon the epididymis and the testicle. This was also well shown in the case of two reservists whose testicles were injured by a shell. The condition in each case seemed to be a severe contusion of the organ, yet when the swelling subsided a distinct nodule could be felt in the tail of the epididymis and the testicle itself was found intact. What had really taken place was an acute epididymitis in an old, apparently cured gonorrhea.

In severe cases of this kind not only is the testicle swollen and tender but the infection travels up the cord which becomes involved, and presently the patient shows all the symptoms of peritonitis, such as that associated with the appendix, for example. Six of these patients presented this unusual picture. The following cases may be cited as examples.

The first was that of an Algerian sharpshooter who was admitted with a severe double orchitis and funiculitis. There was considerable induration running up into each iliac fossa. The abdominal muscles were held contracted and in addition there was such superficial hyperesthesia that palpation was impossible. There was absolute constipation, infrequent urination, and bilious vomiting. The fever reached above 102°. The local symptoms soon subsided but the general symptoms persisted for some time and there was considerable precordial pain although the heart was negative on examination. These general symptoms seemed finally to cede to a course of electrargol injections. A second case ran a course similar to the first. The third case was that of a Zouave who came in with a right orchitis and funiculitis, vomiting, fever, and a rigid and tender right abdomen. The temperature fell at first, but on the fifth day rose once more, and an induration formed in the right inguinal region. As the symptoms progressed despite the application of ice, the patient was operated as an emergency case for a possible appendix abscess.

The abscess was drained but the appendix was not looked for nor was the pus examined. The orchitis was completely cured.

Such clinical pictures as the above are cases of pseudo-peritonitis due to irritation of the subperitoneal fascia from irritation carried from the cord. The diagnosis is generally easy, for the orchitis is obvious, but in some cases there may be really a question as to whether an appendicitis is not developing at the same time. Only an examination of the pus can solve this question. There is always an accompanying gonococemia.

The authors believe that the unusual gravity of these cases is not attributable to a special virulence of the organism so much as it is to the fatigue and the lack of care associated with service at the front. This applies to both acute and chronic gonorrheas, for the gonococcus can remain latent for years in the prostatic acini or the urethral glands awaiting only a favorable occasion for resuming its original virulence. This is but another proof of the rarity of cures in gonorrhoea—the majority of such being but “pseudo-cures.” The gonococci only await a sufficient opportunity—a hard campaign as in these cases—to cause the most serious complications, such as are observed only in the acute stage of a recent gonorrhoea.

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THE “PHLEGMASIA ALBA DOLENS” OF SECONDARY SYPHILIS.—*By Drs. Druelle and P. Blum.*

It is not very uncommon for the syphilitic virus to attack the venous system. During the secondary stage syphilitic phlebitis usually affects the superficial veins of the extremities. Involvement of the deeper trunks however, is rare, but when this does occur in the lower extremities there is produced the clinical syndrome of phlegmasia alba dolens. The authors report the following personal observation.

A man of 46 contracted two syphilitic ulcerations of the penis on June 1, 1910. He was put on injections of mercury and the chancres cicatrized rapidly. On June 29, 1910, the patient complained of pain in the left calf. Examination revealed edema of the left foot, the diagnosis of phlebitis was made, and the patient was put to bed. By the first of July, the edema had ascended to the left thigh and the pain was much aggravated. On July 3 there was an attack of pain in the *right* calf with edema of the corresponding foot. By July 5, the edema had

reached the abdominal wall on both sides. On July 10, the patient complained of sharp pain in the right chest and the next day he spat up some bloody sputum. On July 20, there was a further embolization of the right base and on the 25th the left lung was similarly affected.

Examination made July 30, revealed the following condition: Both lower extremities were the seat of an enormous edema which seemed to stretch the skin to the limit but pitted readily on pressure. Gentle palpation failed to reveal the presence of indurated cords. In addition to the tenderness there was still some spontaneous pain but this was less marked than at the beginning. The edema extended well up on the abdominal wall; on the left side as high as the costal margin, on the right as far as the level of the umbilicus. Auscultation revealed rales at both bases; there was no evidence however of pulmonary tuberculosis. The skin showed a few doubtful macules; the tonsils several distinct mucous patches. The general condition was good.

The mercurial treatment was temporarily suspended, the patient being put on potassium iodide and a chloride-free diet. By August 15, the pains had practically disappeared and the edema was diminishing. Daily injections of 2 cc. of a 1% solution of benzoate of mercury were commenced. On the 25th of August it was noted that the edema was limited to the legs and to the dependent parts of the thighs. Moreover there was an abundant diuresis of about 3 liters of urine daily. The 5th of September marked the completion of a course of 20 injections of the benzoate. The edema was gone and the patient was allowed to get up. On Oct. 1, the patient was discharged cured.

The authors summarize ten other cases from the literature. They conclude from their studies that phlegmasia alba dolens of secondary syphilis generally appears early in the disease and evolves rapidly. The symptoms are generally less mild than in obliteration of the large veins from other causes. The edema is less massive than in the case reported, the duration is relatively short and the pain and disability not excessive. Fever is generally wanting, as is adenopathy. A venous cord is not palpable in the deep form. Bilateral involvement seems common.

In regard to diagnosis, the Wassermann test is of course of great value, but other causes of phlegmasia must be carefully ruled out. Among the latter are typhoid fever, erysipelas, rheumatism, the puerperal state, uterine affections, tuberculosis, chlorosis, and varicose veins. Although sudden death from large em-



boli has not been described, embolic phenomena are not uncommon.

The treatment is that of any phlegmasia. Mercurial treatment is of course specific and the benzoate of mercury is specially recommended as in secondary specific phlebitis of the superficial veins.

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SUBCUTANEOUS SYPHILITIC CHANCRE. *By H. Gougerot.*

The existence of a subcutaneous syphilitic chancre, or more properly initial lesion since there is no ulceration, has been seriously questioned. Experimental inoculation of syphilis into monkeys has not succeeded in definitely producing hypodermic chancres. Not only have no initial lesions been demonstrated in these animals, but their viscera when injected into other monkeys have failed (except in two doubtful cases) to cause syphilis, and what is more striking the inoculated animals have shown no immunity to epidermic infection.

A case of hypodermic inoculation in man has been reported from Bucharest. The patient was a laboratory assistant who accidentally drove a pipet, infected with the virus of a syphilitic rabbit, into the palmar aspect of the base of his left little finger. A week later the finger became swollen and painful; the skin, however, was normal, and the site of puncture was invisible. Two weeks after the accident an enlarged, non-tender, axillary gland was discovered. On the thirty-third day an X-ray plate was taken which showed a rarifying osteitis of the first phalanx with an area of bone absorption the size of a pea. The skin showed no ulceration but a slight violet discoloration. The subcutaneous tissues were hard and thickened down to the bone. The diagnosis of chancre was not made and the case was regarded as one of spina ventosa until the appearance of a typical roseola.

The following interesting case was observed by the author. The subject was a man of 33 who presented a swelling on the inner aspect of the prepuce a little above the balano-preputial fold. The swelling was of cartilaginous density and raised the mucosa without changing its appearance. There was no ulceration. In the right groin there was a group of small and large indolent, discrete glands. The past history was negative for venereal disease. The present lesion was of two weeks' duration and appeared one month after a suspicious intercourse. The

Wassermann test was positive with the cholesterin antigen of Desmoulière and negative with the ordinary specific-liver antigen. These are the usual findings at this stage of the chancre. The most striking feature of the case was that the lesion was entirely subcutaneous and that the overlying skin or mucosa was freely movable above it and absolutely non-adherent.

In view of the history, the adenopathy, and the characteristic Wassermann results, the author feels justified in regarding the condition as one of true subcutaneous initial syphiloma. That this must be a very rare case is obvious in view of the well-known striking immunity of the subcutaneous tissues to a primary syphilitic invasion as contrasted with their susceptibility in the later stages of the disease.

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EPIDEMIC INFLAMMATIONS OF THE SALIVARY GLANDS AND OF THE EPIDIDYMIS.—*By Hermann Eichhorst, Zürich.*

The concentration of the Swiss army along the frontiers and at various posts in the interior has furnished the basis for the following epidemiologic observations:

Case I. A 26 year old infantryman had visited a comrade suffering from mumps. This was on January 5. On January 10 he was seized with headache, dizziness, anorexia and chilly sensations. The same day he complained of a sensation of pain and tension in both cheeks and the same evening was seized with severe pain in the right testicle region. During the next two days the tenderness in the cheeks subsided while that in the testicle increased. At the same time a tender swelling appeared in the left submaxillary region. The temperature rose to slightly over 103; the pulse however varied between 84 and 88. Next a firm, oval, extremely tender swelling appeared in the *right* submaxillary region. The overlying skin was doughy but was only slightly reddened and barely movable over the tumor. The parotid glands were unaffected.

Examination of the genitals showed that the right half of the scrotum was almost twice as large as the left. This increase in size was found due to the presence of a large, firm, irregular, and very tender epididymis. The testicle proper was unaffected. The first portion of the cord was thickened, knotted, and tender. There was no urethral discharge; the urine was clear.

This case was clearly one of epidemic inflammation of the right submaxillary gland associated with a right sided epididymi-

tis and vasitis. The submaxillary inflammation may have been secondary to a transient bilateral parotitis (history of pain in both cheeks). Since a five-day incubation period is unusually short, the chances are that the patient became infected before he visited his sick comrade, particularly as mumps had been endemic in the camp for several months.

Case II. The patient was a soldier, aged 38, who had had no connection with the two cases above mentioned. On Dec. 29 he began to complain of some fever, pains in the back, and cough. Four days later he presented the clinical picture of a mild bronchial catarrh. There was then no fever. On the 7th of January he began to complain of pain and swelling in the right submaxillary region where a tumor, similar to that in the first patient, was discovered. The temperature rose from  $36.8^{\circ}\text{C}$  to  $37.8^{\circ}\text{C}$  (an increase of  $1.8^{\circ}\text{F}$ ) but the pulse was increased by only 10 beats (74 to 84). The next day there was a painful swelling of the *left* submaxillary, and on the 9th and 10th both parotids showed a transient involvement. On January 11, the patient complained of very severe pains in the left inguinal region, and the temperature rose as high as  $104$ . The left epididymis was found markedly inflamed but the testicle and vas on that side were uninvolved. The fever persisted for two days; the pulse never exceeded 100. By Feb. 17, the pain and swelling of the submaxillaries and the epididymis had completely disappeared.

It has been long known that orchitis is associated with mumps in the adult. That the epididymis may be involved instead is however not so generally realized. It is only a coincidence that in these cases the epididymitis was associated with involvement of the submaxillary glands, for cases have been described in which the association was epididymis and parotid, and testicle and submaxillary.

Cases have also been reported in which the only manifestation of the epidemic was an inflammation of the testicle or epididymis alone, much more rarely of the vas alone.

Finally, the occurrence of bradycardia should be emphasized. This generally unknown symptom was especially well brought out in the first case. With a temperature of  $39.5^{\circ}\text{C}$  ( $103^{\circ}\text{F}$ ) the pulse was 84. Theoretically it should have run between 100 and 104. In the second case the bradycardia was not so well marked. It is thus possible that the unknown toxin of mumps may exert a bradycardial action similar to the effect of the bacillus typhosus.

RESULTS WITH THE HERMANN-PERUTZ REACTION IN SYPHILIS.—*By Gustav Stümpke.*

In 1908 Porges and Meyer showed that luetic sera caused a precipitate in lecithin solutions. Other investigators substituted sodium glycocholate for lecithin and obtained a similar reaction. In 1911 Hermann and Perutz suggested the following procedure: Into each of a series of narrow tubes are put 0.4 cc. of blood serum which has been inactivated at 55°C., and 0.2 cc. of a special stock solution diluted 20 times, and 0.2 cc. of a freshly prepared 2% watery solution of sodium glycocholate. The stock solution above mentioned consists of sodium glycocholate 2.0, cholesterin 0.4, 95½ alcohol 100. The tubes are shaken, stoppered with cotton, and put aside (undisturbed) for 20 to 22 hours. If a distinct flocculation is visible the reaction is considered positive.

Many authors have reported reliable results with this procedure. Moreover the simplicity of the test, the small amount of material required, and the cheapness of the reagents, have been emphasized.

The author has performed the test in 270 cases. In general his results have *not* been favorable. In 68 of the cases the Wassermann and the Hermann-Perutz reactions gave contrary results. In latent lues and in the secondary and tertiary stages the results are about the same. In the primary stage however when spirochetæ were present and the Wassermann was negative the Hermann-Perutz reaction was often positive. Here the latter seems to have the advantage over the older method.

On the other hand there was a whole series of cases (about 20 in number) in which neither the history, nor the physical examination, nor the Wassermann test, nor the clinical course gave any evidence of syphilis and yet in which the Hermann-Perutz reaction gave a positive result.

The author concludes that although the newer test may give a positive result earlier than the Wassermann in the primary stage of syphilis, this is more than overbalanced by the fact that it gives a positive result also in non-syphilitic diseases. In other words it is *not* a specific reaction and a non-specific sero-reaction cannot be regarded as of much value.

## NEPHRITIS IN ACUTE RHEUMATISM.

Marcel Labbé and Saint-Marc (*Bull. de la Soc. Méd. des Hôp.*,) Albuminuria occurs during the febrile stage of acute rheumatism in about 30 per cent. of all cases. It is usually due to renal congestion and only exceptionally to nephritis, the frequency of which is variously stated as 0.3, 0.5 and 1.1 per cent. Some authorities describe a specific rheumatic nephritis, but the majority—including the German school—attribute the renal changes to the presence of multiple small infarctions. In support of this is the fact that rheumatic nephritis only occurs if the case is complicated by endocarditis. The renal trouble is thus strictly a cardiac rather than a rheumatic complication. Hematuria has no special significance in rheumatic cases, as it may accompany any form of nephritis.

A man, aged 25, was admitted to hospital on May 13, 1914, the ninth day of an attack of acute articular rheumatism. The temperature was 102.2°. He had had several previous attacks, the first at 6, and the last in 1910; this lasted 2 months, and was complicated by endocarditis. The knees, toes, ankles and left wrist were affected and there was profuse sweating. The urine was scanty, turbid, of the colour of stale broth, and contained a quantity of albumin, blood, and granular and blood casts. There was no edema or puffiness of the face. The apex beat was in the fifth space. There was a blowing diastolic aortic murmur and a systolic apical bruit. The pulse was typical of aortic regurgitation, and there was a well-marked capillary pulse. Mitral regurgitation was probably of more recent origin.

Owing to the presence of nephritis with hematuria only 30 gr. of salicylate of sodium were given daily. On May 18 the temperature was normal, and the joints were almost free from pain. The perchloride of iron test proved that the salicylate was excreted in the urine, which was scanty and high-coloured, but contained less albumin and no blood. The blood-serum contained 0.80 gm. of urea per litre. On May 19 there was a mere trace of albumin. Probably owing to the dose of salicylate being insufficient, articular pain became as pronounced as on admission, and the temperature rose to 102.6°. Simultaneously, the blood and albumin reappeared in the urine. The pulse was 120. As the renal condition appeared to have been benefited rather than aggravated by the salicylate 4 gm. (61.6 gr.) were administered daily. Improvement was immediate. Articular pain subsided, the temperature again became normal, and on May 29 the albumin in the urine



was too minute for estimation. On June 8 there was 0.65 gm. of urea per litre of blood-serum. On that day another relapse of acute articular rheumatism occurred, with a rise of temperature to 103.4° and an exacerbation of nephritis more severe than the first. There were severe lumbar pain, edema of the face and legs, and albuminuria. The heart's action was violent, and a thrill was felt at the apex. Six gm. (92.4gr.) of salicylate of sodium were given daily. The effect of the drug was marked, and on this occasion permanent. The patient was discharged on June 29, after the temperature had been normal during 16 days with no articular pains and no albuminuria, but with the cardiac murmurs persisting.

Were the renal changes due to infarction or true rheumatic nephritis? For the first could be advanced the presence of endocarditis, which according to the German view, is sufficient to decide the point. But the writer inclines to the view that a true specific rheumatic nephritis was present. No signs of infarction of any other organ could be detected. There was edema, which is a sign of retention of chlorides. The presence of casts and of an excess of urea in the blood, which latter indicates renal impermeability, also strongly supported the nephritis theory. Finally, there was the effect of salicylates on the renal condition.

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#### STENOTIC ATROPHY OF THE PROSTATE.

J. Dubs, (*Beitr. zur klin. Chir.*) discusses this subject and mentions the fact that Barth two years ago called attention to this condition which had previously been described by French authors as "prostatisme sans prostate" or prostatism without prostatic enlargement. The symptom-complex which is described is that of prostatic hypertrophy, but on examination or at operation the enlargement is lacking. The cause of these symptoms with the atrophy is as yet undefined.

The author reports a case of a man of sixty-nine years of age who never had gonorrhoea, and had never been otherwise ill. The onset of the condition was sudden and without apparent cause about four weeks previous. Soon absolute retention followed. The urine was cloudy and showed epithelial cells and many cocci. During catheterisation it was noted that the catheter passed easily and without meeting with any obstruction whatsoever. Further it was not found necessary, as in prostatic hypertrophy, to depress the catheter.

In passing the internal urethral orifice no musculospastic or tough callous resistance was to be felt. The tensely distended bladder extended to the navel. The finger in the rectum detected a small, tough not sensitive resistance which in conformation

and size bore no resemblance to the normal prostate. The lateral lobes could not be felt as such, and the total volume seemed to have diminished four or even fivefold. The operation was undertaken by the suprapubic route, and on opening the bladder it was noted that the wall was much thickened and the muscularis much hypertrophied. The mucosa was disposed in many trabeculae. The internal urethral orifice had shrivelled to a very small opening.

The prostate as an independent organ was not palpable. Valve-like formations or semilunar conformation at the internal orifice could not be noted. The bas-fond of the bladder merged without demarcation into the neck of the bladder. The internal urethral orifice felt like a hard ring, which, however, was dilatable.

The mucosa at the internal orifice was circumscribed with a curved knife, whereupon with the finger in the rectum it was extremely difficult to enucleate the prostate. After deeper incision at the orifice it was possible to enucleate from the left lobe a hard mass. From the right nothing could be enucleated. The tissue felt hard and inelastic. The pathological diagnosis was made of senile involution atrophy with cicatricial contracture of the organ. Soon after the operation the patient ceased complaining entirely. During the operation the fibrous degenerated sphincter was removed. This resulted in a radical cure. Urinary continence was retained thru the function of the external sphincter. The author recommends atrophy to be treated by enucleation as in hypertrophy.

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#### DEATH AFTER GRAY OIL INJECTIONS.

J. S. Covisa reports (*Revista de Med. y Cir. Pract.*) the case of a woman of thirty-nine years who had been given six injections of gray mercurial oil for syphilis. On coming under observation there were severe mercurial lesions of the mouth and pharynx, swelling of the gums without the usual ulceration, also numerous small ulcers on the mucous membrane of the cheeks. There was intense ulceration behind the molar teeth involving the base of the tongue and the entire soft palate. There were no intestinal symptoms, albuminuria, nor urinary casts. Treatment was instituted with irrigations of potassium permanganate, and peroxide of hydrogen, and also cauterization of the ulcers with a twenty per cent. chromic acid solution. Under this treatment the ulcerative condition cleared up remarkably except on the tongue, which became so swollen as to fill the entire mouth, and make the ingestion even of liquids almost impossible. The gingivitis healed up; no bone lesion was produced as is almost always the case in mercurial stomatitis. The tongue however continued to swell so as to protrude from the mouth and an accompanying trismus made it very difficult to prevent the teeth from severing the tongue. The general con-

dition was surprisingly good all along. After some days of local treatment, the glossitis abated to such an extent as to allow the tongue to recede into the mouth and the stomatitis almost disappeared. However dyspnea occurred from ulceration of the epiglottis, progressing to a fatal termination. Autopsy showed that the cause of death was mechanical asphyxiation from edema and ulceration of the glottis. Absolutely nothing pathological was found in the other organs. This is an extremely rare cause of death in mercurialism. The common causes of death are hemorrhage, general sepsis and bronchopneumonia, when stomatitic symptoms prevail. On the other hand when the intoxication is acute, death is caused by renal, hepatic, and intestinal lesions.

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### ARTIFICIAL IMPREGNATION.

PROCHOWNIK (*Zentralbl. f. Gynäk.*, 1915, xxxix, 145, *Am. Jour. Med. Sci.*) says that in the course of a practice covering several decades he has made upon 13 individuals 21 attempts at artificial fertilization, with 3 successes.

He emphasizes strongly the necessity for a thorough examination of both husband and wife, not only from the point of view of their general physical and sexual development, but also entering somewhat into the psychic field. Having determined the presence of apparently living spermatozoa in the seminal fluid of the husband, and the absence of mechanical obstructions to conception in the wife, Prochownik says that he now always demands permission for at least two attempts before undertaking artificial fertilization. The best time for this he considers between the fifteenth and twenty-second day after the beginning of the preceding menstrual period. He lays great stress on the importance of carrying out all procedures quickly, deftly, and without undue fuss and elaboration. He uses the ordinary Braun intra-uterine syringe, which should be warm and dry. Coitus is permitted with a condom: immediately following this, the seminal fluid is drawn into the syringe from the condom, and not more than 0.5 c.c. injected into the *uterine cavity* (not merely into the cervix), the remainder being placed upon a sterile tampon against the external os. The woman is kept in bed for about an hour and a half, after which the tampon is removed, and she is allowed to resume her normal activities. Prochownik thinks that the mental attitude of the patient is of equal or greater importance than refinements of technique, hence the importance of a second trial if the first does not succeed, since the patient is apt to be much less nervous and frightened than at the first attempt.

## EARLY NERVOUS SYPHILIS.

U. J. Wile and J. H. Stokes, Ann Arbor, Mich. (*J. A. M. A.*) after referring to their former papers, give the results of the study of twenty-six further cases, studied mainly by the same methods, only with the routine use of the Nonne-Apelt technic of estimating soluble proteins in the spinal fluid, in addition to the simple boiling test, and the carrying out of complete neurologic examinations constituting the principal additions. They also acknowledge the courtesy of Professors Parker and Canfield in examining the fundus oculi and acoustic apparatus. Taking all the methods together, only one of the twenty-six cases was frankly negative, and in this case the eighth nerve was not examined. Two other patients presented respectively exaggerated knee and Achilles tendon reflexes, and slight decrease in bone conduction with normal hearing. The remaining twenty-three cases were positive in two or more particulars of the examination. In the spinal fluid alone, nineteen (73 per cent.) showed some positive finding. It had been already emphasized by them that a negative reaction at the time of puncture does not necessarily imply that it may not have been positive in the past or show signs in the future of meningeal reaction. Definite involvement of the central nervous system may exist without the conventional signs in the spinal fluid. Hence they lay stress on the fundus and eighth nerve examinations, as well as the complete neurologic examination, in determining the involvement of the nervous system in early syphilis. The details of the fundus oculi examination are given; and from them it seems reasonable to conclude that involvement of the central nervous system may occur without demonstrable changes in the spinal fluid. On the other hand, neuroretinitis is by no means an invariable accompaniment of spinal fluid changes, and its severity shows no definite relation to the degree of meningeal involvement when both are present. Special significance was given to cases with decreased bone conduction along with practically normal hearing. Changes in high and low limits of sound perception were also noted. In sixteen examinations, eleven were positive, in eight of which the spinal fluid was also positive. In the five cases in which the eighth nerve was normal, three were positive in the fluid and three were negative. Comparing eighth nerve involvement with that of the second nerve and other forms of central disturbance, the authors find the test of bone conduction is the most sensitive indicator of the condition of the nervous system. Of twenty-two cases sub-

jected to a complete neurologic examination, nine were positive in some particular, and thirteen were negative. Of the nine positives, eight showed definite involvement of the spinal fluid, as did thirteen of the negative cases. Ten of the twenty-six were women, and sixteen men. Using the spinal fluid as a criterion, 80 per cent. of the women and 68 per cent. of the men showed definite involvement, which is confirmatory of the views of Fournier as to the greater frequency of central nervous involvement in women. The eruptive manifestations were noted, and the high proportions of involvement in the follicular, pustular and pigmentary syphilids was apparent. Moderate or severe involvement of the general health was found in twelve cases, of which ten were positive in the spinal fluid, and only two negative. There was an appreciable correlation between severe impairment of the general health and positive findings in the cerebro-spinal fluid. In general, patients with negative fluids were free from subjective symptoms, and this was true also of some with positive fluids. Relation between severe headache and positive cerebrospinal fluid involvement was observed in six patients. In spite of all precautions, the number of patients showed reactions of varying severity after puncture, and this was apparently independent of normal or abnormal spinal reactions. Only two patients of the series had received anything like efficient treatment before entering the hospital; not enough to justify comparison of the effect of treatment in preventing early involvement, but they are at least suggestive. Several cases illustrating points of interest are reported with comments, some of which serve as examples of the insidious onset of central nervous involvement. The authors emphasize the value of lumbar puncture as a diagnostic and prognostic procedure. The possible bearing of these early cases of central nervous syphilis is of greatest importance, and supports the observations of other authors showing the importance of early treatment. Wile and Stokes consider that susceptibility and the possibility of a special strain of spirochete may both be considered as having a bearing on early nervous syphilis. Sufficient time has not elapsed to determine any effects of their treatment in preventing subsequent manifestations; and it is possible that the nervous system may be irreparably injured without any sufficiently characteristic symptoms to indicate the fact. Careful study of cases for a number of years will be needed to determine the correctness of this theory.



Dr. Mary Sutton Macy (*Med. Record*) reports very favorable results with pituitary extract in gonorrhœal arthritis. Instead of the intramuscular injections used by Wallace and Child, as it is known that the active principles diffuse but slowly through animal membranes, the author introduces the extract by ionization of the extract into the joints by means of the high frequency spark. Case reports are as follows:

CASE I.—Mrs. G. had suffered for four months from a gonorrhœal inflammation of all the digital joints of the left hand, the thumb and index finger excepted, and recently—two weeks before beginning electric treatment—the joints of the ring and middle finger of the right hand had shown a mild inflammation. Treatment with high frequency current resulted in slight improvement in the pain, but had no appreciable influence upon the swelling or motor ability of the fingers. After two weeks the patient was given thyroid gland, gr. j., t.i.d. on the indication of her general symptoms, with noticeable improvement in the texture of skin, relief from the great sensitiveness to cold, and improvement of the constipation, but still no effect upon the arthritic joints. The high frequency was continued during thyroid medication. At the end of twelve weeks electric treatment—during ten of which thyroid was administered—a tablet of pituitary gland substance, gr. j., was triturated, and then the powder ionized into the joints by the high frequency spark. At the next visit, *i.e.* after one treatment of this ionized pituitary, the patient expressed herself as “feeling much better” and demonstrated her improvement by showing decreased swelling and ability to move the fingers in some slight degree. At the second treatment the error was made of triturating the pituitary in glycerin, thinking it would be easier to spread smoothly over the surface of the joints. The effect was to produce a skin burn on two fingers which was very obstinate in healing. Later treatments avoided such complications by using the powdered substance only, not more than 1 gram being used at any treatment. Within ten days after beginning this treatment all inflammation had disappeared and motion had returned without contracture of the tendons or other disability. Treatments were discontinued after two weeks and in the subsequent three months there has been no return of the symptoms—nor of the previous thyroid symptoms, which disappeared simultaneously.

CASE II.—Mrs. R. Came with similar history of gonorrhœal arthritis of right elbow persisting for six months though sterile genitourinary specimens had been obtained for three months, and

no improvement had followed vaccine, hyperemic, or massage treatments, and very slight improvement had resulted from thyroid therapy. At the end of the first week of pituitary ionization the pain had disappeared. The amount of pituitary used was increased to 2 grains and improvement became marked and progressive. In six weeks she was discharged with perfect motion, no appreciable inflammation and no pain; the amount of pituitary was reduced again to 1 grain at the end of the fourth week. No internal medication was given during the treatments.

CASE III.—C. L., a lad of ten years, with an arthritic knee and ankle. History of gonorrhea but sterile specimen for two months, and no improvement in the joint condition, which had persisted for three months. Pituitary was used at once, on the evidence of the other two cases, and cure resulted, uneventfully, in six weeks.

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## A COMMUNICATION.

### TREATMENT OF "INCRUSTED CYSTITIS" BY SUPRAPUBIC DRAIN AND INTRAVESICAL INJECTION OF LACTIC BACILLUS.

*To the Editor of THE AMERICAN JOURNAL OF UROLOGY:*

Sir,—My attention has been called to an address given to the American Association of Genito-Urinary Surgeons at Stockbridge, Mass., on May 16th, 1914, by Dr. John R. Caulk, of Washington University Hospital, published in your January issue in which he says, in bringing the malady before the notice of the association, his object is "to emphasize its seeming malignancy if not properly treated, to outline some of its clinical and pathological features, and above all to present a treatment, which in my hands has worked not only satisfactorily but like magic." The treatment consists of intravesical injection of lactic bacilli and suprapubic drainage, and in recommending the treatment he affirms: "As far as I have been able to determine, this procedure has never been previously used in incrustated cystitis."

The question of priority in adopting any particular treatment is of little importance as contrasted with a proper estimate of its real value. I am glad that Dr. Caulk has emphasized the usefulness of the lactic bacillus and drainage, in the treatment of cystitis, when there are phosphatic deposits in the bladder, a treatment I have used for more than a dozen years and found most valuable.

In an article in *The Lancet* (Feb. 24 and Mar. 2, 1912) in referring to the treatment of cystitis due to organisms which decompose urea, those which cause ammoniacal urine and the deposit of alkaline phosphates, I wrote:—

When the urine is alkaline after irrigating an instillation of pure lactic bacillus cultures in milk whey or the filtrate of saurine may be employed with great advantage. By setting up an acid fermentation the urea-decomposing organisms are weakened or destroyed and the phosphates dissolved.

And with regard to suprapubic drainage—

This drainage must be supplemented by careful irrigation, and if the urine is alkaline, or contains alkaline phosphates after irrigating, an instillation of lactic bacillus cultures should be given. Milk whey containing pure lactic bacillus not only destroys the septic organisms in the bladder but also dissolves phosphatic crusts adhering to the bladder or the wound. The filtrate of saurine does admirably and may be used with advantage in all purulent conditions. A suppurating sac or a granulating surface thoroughly washed regularly with it cleans up rapidly; it acts more satisfactorily than any chemical antiseptic, and the lactic acid bacillus not being a pathogenic organism does no harm. In some cases quite remarkable results have been obtained. . . . The drainage employed is by syphoning the urine into a suitable vessel so as to permit the patient to go about with freedom. The method used for the last nine years is easily carried out and has been very successful.

It may be interesting for your readers to know that long before Metchnikoff discovered the value of the Bulgarian bacillus as a destroyer of smaller and less active organisms, in some parts of the Highlands of Scotland butter-milk was a common ingredient of poultices used for the cleansing of putrid sores. I first saw it used by a gamekeeper in the Island of Mull in 1893, and when he told me that the addition of butter-milk cleaned the sore immediately I was very sceptical, but when I saw the result a couple of days later I was more than surprised. Later in the same year an opportunity offered itself of testing the effect of poultices containing butter-milk, and the result satisfied me that there was something good in the treatment, as a sloughing surface, which was very putrid, soon cleared up, and the local irritation consequent on the septic absorption disappeared. Since then I have often used lactic bacilli cultures to destroy septic organisms. At a time when bacteriological research was in its infancy the simple filtrate of butter-milk, the whey, was used, but later pure cultures were made

by inoculating sterilized solutions of sugar of milk with Bulgarian bacilli. Without or with a suprapubic opening I have used constantly this treatment of cystitis with most satisfactory results, and Dr. David Watson has employed a similar treatment for gonorrhoea in women. In his admirable book on gonorrhoea he gives details of a method of preparing soft tablets and bougies, which are very convenient for this purpose, but I have always preferred freshly made cultures in a fluid medium as most suitable for urological work.

I have been unable to discover whether it is the lactic bacilli or their products that produce the effect. Chemically pure lactic acid dissolves phosphates, but it does not destroy septic organisms to anything like the same extent as freshly prepared cultures of lactic bacilli. I am inclined to believe that the lactic bacilli devour or break up the pyogenic organisms or their products neutralize the toxins of the less virile organisms. There is a bacterial contest takes place in which the lactic bacillus is always the victor. Recently I have used this treatment for the cystitis remaining after nephrectomy for tuberculous kidney. It certainly facilitates recovery in a remarkable way; but, of course, very special care must be taken to have the cultures pure.

I am, Sir, yours faithfully,

Glasgow, April 20, 1915.

DAVID NEWMAN.

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## BOOK NOTICE

**PYELOGRAPHY (*Pyelo-Ureterography*) A STUDY OF THE NORMAL AND PATHOLOGIC ANATOMY OF THE RENAL PELVIS AND URETER.** By William F. Braasch, M.D., Mayo Clinic, Rochester, Minn. Octavo volume of 323 pages, containing 296 pyelograms. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$5.00 net.

The interpretation of the great variety of pelvic outlines shown in the pyelogram is difficult and is possible only through familiarity with the various types. To make this knowledge more accessible, Dr. Braasch has selected a very full series of plates from several thousand made at the Mayo Clinic during recent years. The plates are reproduced with unusual clearness, and together with the explanatory text of the author, will undoubtedly help to increase the value of the method and permit the more general use which it deserves.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

AUGUST, 1915.

No. 8.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

## VESICAL DIVERTICULA.

BY J. GARLAND SHERRILL, A. M., M. D.,

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Many of the older medical writers, evidently basing themselves upon post mortem investigation, more or less accurately described vesical diverticula under the general designations "anomalous development" or "peculiar conformation" of the human bladder. Later an attempt was made to divide and classify the malformation, and the following so-called varieties were mentioned by various authors: (1) vesical dilatation, (2) double (or divided) bladder, (3) triple bladder, (4) vesical saccules, (5) bladder cells, (6) vesical pouches, (7) bladder cysts, (8) false bladder, etc.

Bourienne, Rauling, Collot, Blasius, Riolan, Ruysch, Franck, Oberteuffer, Bartholinus, et. al., describe cases of so-called double bladder; Bussiere, Scibelli and a few others claim to have observed instances in which a triple bladder was encountered; Fantoni and Malgetti cite examples of quintuple bladder.

Present information concerning the subject warrants the statement that practically all the examples of anomalous vesical conformation, i. e., the so-called double and triple bladder, etc, cited by the older authorities, were large (perhaps multiple) vesical diverticula. It is believed instances of vesica duplex are so extremely rare that when encountered they may be regarded merely as pathological curiosities.

As far as can be gleaned from published reports, the older observers appear to have possessed no definite or at least adequate conception of the nature or probable pathology of vesical diverticula, since they employed the foregoing designations interchangeably. However, in justice to these older authors the pertinent



fact must not be permitted to pass unobserved that previous to the advent of the perfected cystoscope and the gradual development of knowledge as to the technique of its rational employment (thus rendering intra-vesical investigation *in vivo* practicable), but little information was obtainable concerning the pathological characteristics of these extra-vesical formations, therefore ante-mortem diagnosis was seldom possible and the true nature of the anomaly was often unrecognized until death supervened and a necropsy was performed. And with equal truth it may be remarked that even at the present day, with the multiplicity of mechanical diagnostic appliances and modern methods of technique in examination, recognition of the malformation under consideration is not always easy; indeed, accurate diagnosis during life may often be quite impossible. Ordinarily, however, by intelligent and careful use of the cystoscope the diagnosis presents no unsurmountable difficulties.

It would appear from the literature that Morgagni was among the first to recognize the true character of vesical diverticula, and he attributed their origin to hypertrophy of the bladder wall, the latter resulting from pressure due to prostatic enlargement and consequent obstruction to the urinary outflow. However, his suggestion as to original causation, (obstruction), has not been entirely borne out by later observed facts, since many causes of even multiple diverticula have been recorded without there having been at any time the least obstruction to the outflow of urine.

The significance of these sacculations in relation to the bladder, their mode of formation, the symptoms presumably referable thereto, etc., have been carefully considered by Tenon, Houstet, Chopart, Morgagni, and many others. Cruvelhier suggested the theory that vesical diverticula were formed by hernia of the mucosa through the muscular coat and proposed the designation "hernie tunicaire," evidently being under the impression that there existed in these diverticula no evidence of musculosa. However, the investigations of Civiale, Mercier, Robelin, Virchow, et. al., demonstrated the presence of muscular fibres in certain diverticula, which observation was confirmed by other investigators and later accepted by Cruvelhier himself; therefore a division became necessary in the classification of these extra-vesical formations into: (a) congenital diverticula (i. e., those with musculosa), and (b) acquired diverticula (those without muscular coat).

Durrieux, (according to Fischer) who, in 1901 collected 195 examples, gives the following definition of vesical diverticula: Certain cavities in close connection with the bladder due to an expansion of a portion of its walls. They are characterized by: (a) the presence of an opening which is clearly defined, forming the communication between the cavity of the bladder and that of the diverticulum, (b) by absence of an ureteral opening, (c) by a mucous lining which is continuous with that of the bladder and covers its entire inner surface.

Englisch was able to distinguish the following types of anomalous vesical conformation:

(1) The divided bladder: (a) by a vertical septum, (b) by a horizontal septum away from the opening of the urachus.

(2) Diverticula of the bladder: (a) true diverticula, containing mucosa and muscularis, (b) false diverticula, consisting only of mucosa, the "hernie tunicaire" of Cruvelhier. Fischer believes the divided bladder and the true diverticula are congenital, that the false diverticula are always acquired.

In the opinion of the writer, all true vesical diverticula, likewise all so-called double, triple or divided bladders, are congenital, being malformations or errors of development. In connection with the so-called double bladder not infrequently there are other associated or concomitant deformities, e. g., bicornate uterus, double uterus, double vagina, double penis, atresia ani, etc., etc. Schatz observed an example in which there were two uteri, two vaginae, and a double bladder communicating with one vagina; the ureters were absent and the kidneys showed cystic degeneration. Gleiss refers to a female infant with two anal depressions, two anal furrows, double labia majora, vagina, urethra and bladder; incising the left anal furrow the gut was encountered at a depth of 3 cm. and showed a complete septum which permitted no communication between the right and left rectum. In an example recorded by Lange there was a double penis, atresia ani, double scrotal raphé, two anal folds, two anal depressions, also a double urethra and double bladder; there were two fistulae leading from the blind rectal pouch each emptying into one of the urethrae. In Volpe's case there was a double colon, the right emptying into the right bladder, the left one into the left bladder, and a horseshoe kidney with only one ureter; the penis consisted of two corpora cavernosa; there was also found a diastasis of the symphysis pubis. All these examples occurred in infants stillborn, or who succumbed shortly after birth.

The various theories advanced in attempted explanation of congenital vesical malformations, or errors of development, are both ingenious and interesting, but extended consideration thereof would be distinctly out of place in this dissertation, therefore only two will be mentioned in detail. Reichel (according to Fischer) thinks the malformation is brought about at a time when the primitive cloaca and the genito-urinary sinus begin to be separated by the two Rathke's folds. It is believed this takes place in the following fashion: On either side of the gut, at the point where it enters the cloaca, there are developed projections, or folds,—the so-called Rathke's folds. These two folds produce three depressions on the dorsal wall of the cloaca. The median one constitutes the direct prolongation of the gut, the two lateral ones are prolongations of the Wolffian ducts which enter the cloaca higher up. The two Rathke's folds grow downward and eventually blend in the median line, thus forming a closed channel—the rectum—and separating the urogenital sinus from the gut. If these folds should grow to such an extent as to reach the anterior wall of the urogenital sinus, it is easily conceivable that two distinct cavities are formed. This theory, however, fails to explain the origin of those examples where double rectum, vagina, and penis, also exist. Pagenstecher, therefore, assumes that these malformations must originate at a very early period of embryonal life before differentiation of the parts has been effected, being the result of a duplication of the entire urogenital system, both of entoblastic and ectoblastic origin.

Other writers believe the formation of congenital diverticula is based upon the presence of some obstacle to the outflow of urine, in consequence of which weak points in the muscular arrangement of the bladder give way. It is thought these obstacles may be produced by inflammatory conditions of the bladder or urethra during intra-uterine life, but which have healed leaving no vestiges after birth. According to Englisch the opposing epithelial layers become agglutinated during embryonal life, thus occluding the urethra. This occlusion is relieved at a later date by back pressure of the secreted urine. However, this theory would not explain the type of diverticula which are formed by a vertical or horizontal partition. It is the opinion of Fischer that the formation of congenital diverticula and bilocular bladder may best be explained by the theory of Pagenstecher, who holds that they are produced by a "folding in" of the bladder wall, brought about by a superfluity of embryonal tissue which has to accommodate itself to a certain space in the pelvis.

Diverticulum of the bladder may be single or multiple,<sup>1</sup> and the malformation has been encountered in the very aged as well as in stillborn infants, both male and female, but is most often observed in males. The existence of the anomaly may be unsuspected for many years, indeed the condition *per se* may never induce sufficient discomfort to direct attention to the urogenital system, and thus remain undiscovered until the bladder is opened for relief of other palpable disease, or until necropsy is performed for the elucidation of some other pathological lesion. However, in the majority of instances there will be elicited a history of urinary disturbance of several months or years duration, usually attributable to obstruction to the outflow of urine from urethral stricture, vesical calculi, or enlarged prostate, and as a rule a catheter life will have been established before the patient applies to the surgeon for relief.

Vesical diverticula are primarily and essentially outgrowths from the bladder wall and are composed of structures not dissimilar in any respect from those which constitute the bladder itself. They may be closely connected with the vesical wall throughout their entire length, or they may be attached thereto by a short so-called pedicle. Not infrequently dividing septi between the vesical and diverticular cavities give the erroneous appearance of a double or triple bladder. The diverticula usually communicate with the bladder by narrow orifices situated some distance from the ureteral openings, but examples have been recorded where the ureters emptied into the diverticula rather than into the bladder cavity. Where the diverticula are located near the ureters, the orifices thereof may be mistaken for the ureteral openings and thus cause the surgeon much confusion. Sometimes it has happened that a diverticulum was so intimately associated with the ureter that at operation the latter had to be divided and reimplanted into the vesical wall. Such examples have been recorded by Czerny and a few others. There is usually extensive trabeculation of the bladder wall where diverticula exist, presumably the result of internal pressure from obstruction to the urinary outflow. However, it must not be forgotten that numerous instances of vesical diverticula are on record where no trabeculation

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<sup>1</sup> Civiale refers to an example where there existed so many saccules that the outside of the bladder resembled a bunch of grapes. Heister observed an instance in which there were three sacs, one at the upper fundus, and one at each side, besides many others smaller scattered throughout the organ; and Platner recorded a case of sacculated bladder in which there were "thirty-nine sacs" each containing a calculus.—JGS.



existed, nor was there at any time the least observable obstruction to the overflow of urine, thus it seems impossible to formulate a rule which will be equally applicable to all cases.

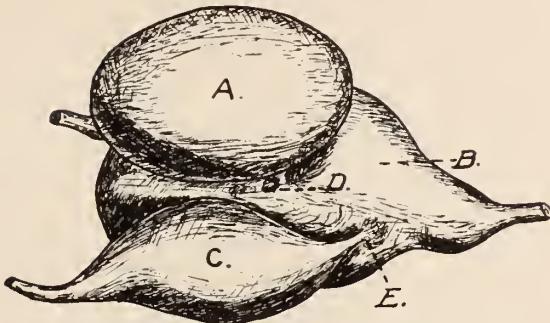
One of the chief symptoms ordinarily observed in vesical diverticula is frequency of micturition with apparent inability to completely empty the bladder. Abdominal or pelvic pain may or may not be present, and occasional attacks of hematuria may occur. From repeated catheterization infection of the bladder supervenes, the urine becomes cloudy and contains mucopurulent material, the desire to urinate is constantly present, more or less complete retention occurs, necessitating use of the catheter with increasing frequency, and altogether the patient is in a pitiable state. When the accumulated urine in the diverticula or bladder becomes ammoniacal all the symptoms are aggravated, and calculi not infrequently form in either the bladder or diverticula from deposition of the urinary salts. The kidneys later participate in the pathological process, pyelitis and pyonephrosis supervene, and death more often than otherwise promptly occurs.

The prognosis in the vast majority of instances of vesical diverticula is distinctly bad, and the mortality is necessarily extremely high. However, where the diagnosis is correctly made and adequate surgical treatment instituted before renal implication has occurred, recovery with restoration of normal micturition may reasonably be expected in a fair percentage of cases. Practically all the undiagnosed cases and those expectantly treated eventually succumb because of either renal infection or peritonitis. In some instances even large diverticula have been punctured under the mistaken diagnosis of serous cysts or abscesses, the patients dying promptly from peritonitis. In many others where the true cause of the trouble was unrecognized, rupture of the diverticulum has taken place promptly followed by dissolution.<sup>2</sup>

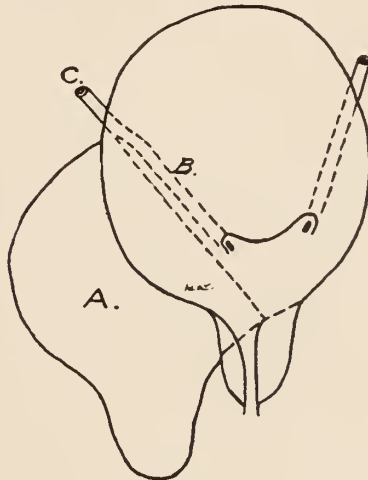
Physical examination may or may not reveal an extraneous enlargement in the region of the bladder, much depending upon the situs of the malformation. If located on the posterior aspect of the bladder, a tumor may sometimes be detected through the vagina or rectum. If the enlargement be found upon either side above the symphysis pubis, after emptying the bladder proper

<sup>2</sup> Atkinson records an example in which there was severe inflammation of a vesical diverticulum with rupture into the peritoneal cavity; and numerous other cases not dissimilar in any essential respect have been reported.—JGS.

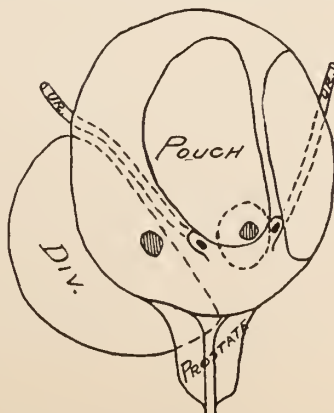




Triple bladder (Scibelli) from *Anomalies and Curiosities of Medicine*.



Vesical diverticulum (Eberts) *Annals of Surgery* 1909  
 A. diverticulum, B. displaced ureter and ureteral orifice,  
 C. dilated ureter above intramural course.



Vesical diverticula (Young) from *Trans South. Surg. & Gyn. Assn.*

by catheterization, by external pressure upon the tumor oftentimes a large quantity of residual urine may be withdrawn, and the tumor then more or less completely disappears. Thus the diagnosis of vesical diverticulum (or bladder sacculation) may be reasonably certain without the aid of the cystoscope, but should be confirmed by the use of this instrument wherever possible before operative treatment is instituted. In some instances the location of the diverticulum is such that adequate drainage into the bladder is impossible, and necessarily in such cases symptoms indicative of the malformation develop early in the life of the patient. Moreover, unless prompt relief is afforded by the invocation of surgery under such circumstances, another death is credited to urinary sepsis which might have been prevented by the timely institution of proper operative treatment.

There has been considerable debate as to what constitutes the most appropriate treatment of vesical diverticulum. One would naturally suppose that the great majority of these cases would require radical removal in order to obtain a cure. The writer believes that some cases of large diverticula, with but little muscular power and considerable retained urine, are best treated by radical surgical attack; yet, in the majority of cases, especially those which are small with a large ostium, the patient may have no symptom of the condition whatever. In many of these cases the removal of an enlarged prostate or a median bar is all that is necessary to completely relieve the patient. In a personal communication from Doctor Hugh H. Young, he states that his experience has been similar to mine.

A small proportion of cases will be benefited by the internal administration of benzoic acid, urotropin, etc., and local treatment of the bladder by irrigation with various kinds of antiseptic solutions. Where cases prove intractable to the simpler methods for relief, and in the group of cases of large diverticula mentioned above, operative intervention is indicated.

Several plans of operative management have been suggested for relief or cure of vesical diverticula: The simplest surgical procedure would seem to be suprapubic or perineal drainage, but this could hardly be expected to be permanently successful inasmuch as the diverticular cavity, having little muscular propulsive or contractile power, can be of no assistance in securing adequate drainage; moreover, the location of the diverticula may be such that drainage is quite impossible. Enlargement of the diverticular orifice has often proven a failure in large diverticula for similar

reasons, as has also suture of the orifice without excision of the diverticulum. Anastomotic communication between the diverticular cavity and the bladder, with temporary suprapubic drainage, has been successfully employed in cases observed by Ljungren, Young, et. al., where one ureter opened into the diverticulum; but this method, for obvious reasons, is distinctly inapplicable where several diverticula are present.

Complete extirpation of the diverticula has been practised many times: In utilizing this method of treatment the suprapubic route should be selected in the majority of instances, since it might be impracticable to gain proper access to the structures involved through a perineal opening. Moreover, when the patient reaches the hands of the surgeon there have ordinarily already developed symptoms which imperatively call for cystotomy; therefore the suprapubic operation should be the one of choice. Not infrequently as a concomitant there will be found vesical calculi which may be removed at the same time, and the suprapubic attack is likewise not often contraindicated where excision of an enlarged prostate is required. However, where the primary object of the operation is extirpation of an hypertrophied prostate, in some instances the perineal route may be preferred; and the same statement will apply where there exists a complicating urethral stricture, provided the diverticula are so situated as to be accessible from below. In those instances where the diverticulum occupies a low position, practically below and behind the bladder, rarely it may be advisable to employ the so-called sacral route, if necessary resecting a portion of the sacrum, as advised by Pagenstecher and others.

The ideal treatment for the cure (obliteration) of vesical diverticula is suprapubic extra-vesical excision of the diverticula, with adequate closure by suture of the diverticular openings. If it so happens that the diverticular attachment incorporates the ureteral orifice and in consequence the ureter is divided or seriously injured during operative manipulation, it should be reimplanted into the vesical wall as has been successfully accomplished by Czerny and others; or, the plan suggested by Young may be employed, viz: "if the ureter opens into the diverticulum, it should not be necessary to divide and transplant it, as done by Czerny and Pagenstecher, but a flap of mucous membrane should be preserved around its orifice and drawn into the vesical opening.... In this way the natural valve-like ureteral orifice is preserved and ascending renal infection avoided."

The writer recently had under his observation a case of diverticulum of the bladder, with complicating vesical calculi and hypertrophy of the prostate, which he regards of sufficient interest to warrant recording. The diverticulum was small and its walls closely approximated by calculi which were removed.

Mr. G., white, aged sixty-four years, came under the writer's care November 26, 1909, with the history of having "suffered with his bladder" for a number of years. For at least two years he had been leading a catheter life. When first observed the bladder capacity was only about four ounces, and catheterization was necessary every three hours, distension of the viscus beyond that causing great discomfort. The patient complained of more or less constant pain in the bladder, which was suggestive of vesical calculus.

Rectal examination revealed a large, rounded, adenomatous prostate, the urine was highly alkaline, and contained a large quantity of pus, some albumin, and blood, but no casts. Diagnosis was accordingly made of prostatic hypertrophy, with probable vesical stone. No instrumentation was practised except that the urine was drawn every two or three hours with catheter, and the bladder was irrigated with a mild antiseptic solution twice a day for three days prior to operation.

On November 29, through a suprapubic cystotomy the three calculi shown in the illustration herewith were removed. One of these is an inch in diameter, irregular ovoid in shape; the second is about half the size of the first, and similar in shape; lying beneath this was a third stone, the upper portion of which was almost on a level with the surface of the base of the bladder; it appeared to be about twice the size of the second stone mentioned, and was firmly held by the bladder wall in the trigone. With considerable difficulty this calculus was elevated from its bed, and consisted of an irregularly quadrilateral body, one inch long and half an inch wide, connected by a small neck with a rounded ovoid mass. The entire stone was embedded in the diverticulum in the bladder wall, a constriction in the soft tissues fitting snugly around the narrow portion of the stone.

The enlarged prostate was then removed and the bladder closed in the usual manner with drainage. The patient had a satisfactory convalescence although somewhat delayed because of the amount of infection present in the bladder.

Owing to the location of these calculi, at the base of the blad-

der, and their being firmly embraced in the vesical wall and in the diverticulum, the writer believes that the suprapubic route was much to be preferred to the perineal. The operation would have been much more difficult by the perineal method.

In the preparation of this paper the writer has interpolated many of the ideas and statistical data incorporated in an admirable article by Dr. H. Fischer, of New York (vide *Surgery, Gynecology and Obstetrics*, vol. 10, No. 2), to whom it is desired full credit be accorded. He wishes also to thank both authors and publishers for the material abstracted from other periodicals and presented herewith in epitomized form. He is especially indebted to Dr. H. H. Young, of Baltimore, for the privilege of reproducing some of the illustrations, and to C. C. Mapes, of Covington, Kentucky, for his most valuable services in collecting and abstracting the literature on this subject.

#### EXHIBITS.

No. 1. (Young). Male, sixty-three, dysuria two years; micturition every fifteen minutes; retention incomplete; catheter had not been used. Prostate enlarged. Catheterization, 1200 c. c. residual urine. Cystoscopy, intra-vesical prostatic hypertrophy; moderate trabeculation vesical wall; on right side anteriorly opening of diverticulum. Suprapubic extra-vesical extra-peritoneal excision of diverticulum with suture of orifice; perineal prosta-tectomy; capacity of diverticulum estimated 500 c. c. Patient discharged well twenty-seven days after operation. Microscopically mural elements consisted of well-defined mucous, submucous and muscular layers; no evidence of inflammation.

No. 2 (Ibid). Male, thirty-four, jumped from moving locomotive (three years before) striking on buttocks; following accident severe pain lower abdomen; lump size hen's egg below and left of umbilicus which gradually subsided; pain returned at tumor site when bladder distended. Cystoscopy, small orifice of diverticulum region of vertex; vesical wall not trabeculated. Excision small diverticulum lying within dilated urachus. Patient discharged well month later.

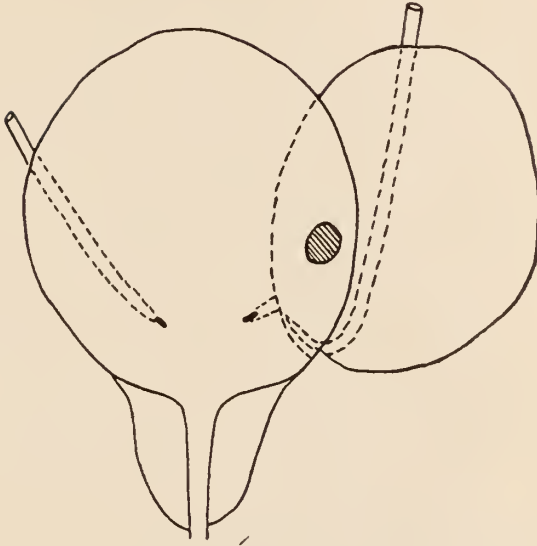
No. 3 (Ibid). Male, thirty, dysuria, pain in back, etc.; gonorrhoea, urethral stricture, combined external and internal urethrotomy. Later obstruction and frequency micturition lasting week; in three months second seizure; third and fourth within year; pain right pelvis, severe tenesmus culminated in sudden passage quantity pus. It was thought abscess ruptured into



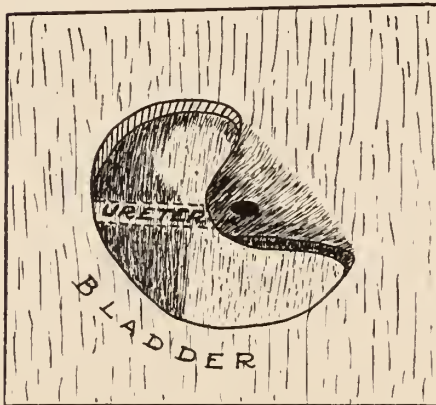
bladder. Urinary retention, catheter met no obstruction; pain necessitated morphine; fever, nausea, muscular rigidity right side. Prostate hard, no stricture; residual urine 350 c. c.; bladder cleansed with difficulty, pressure lower abdomen necessary to completely evacuate contents. Cystoscopy, two diverticula; right ureter opened into larger diverticulum (right side). Catheterization and lavage, no diminution size diverticula or quantity residual urine. Suprapubic extra-vesical excision large diverticulum closure of orifice; bladder drained through perineal urethrotomy. Intra-diverticular emplacement of right ureteral orifice brought forward by flap operation. Owing to failure suprapubic wound to heal, residual urine, recurrence of small pouch at site of excised diverticulum (right side), all indicating obstruction, Bottini operation later. Wall excised, diverticulum showed epithelial lining, numerous layers smooth muscle bundles extending various directions; chronic inflammation. Five months after operation urine clear, micturition normal.

No. 4 (Ibid). Male, sixty-six, dysuria many years; urinary retention, catheterization. If urine allowed to escape soon as instrument entered bladder only small amount obtained; whereas by introducing catheter further (twelve inches in all) 500 c. c. additional urine evacuated. Prostate enlarged, hard; 400 c. c. residual urine; difficult to cleanse bladder. Cystoscopy, bladder small, much trabeculated, inflamed; two diverticula, one behind trigone in median line the other in right lateral wall; latter large, admits cystoscope, extends downward and backward beneath base of bladder and trigone; entire trigone elevated by diverticula. Suprapubic cystotomy, division of septum transforming diverticula and bladder into the one common cavity; urethral and suprapubic drainage. Recovery, restoration normal urination.

No. 5 (Ibid). Male, seventeen, two attacks gonorrhoea; painful tumor left side above Poupart's ligament which disappeared and reappeared several times; nausea and vomiting. Six months another similar attack; mass again suddenly disappeared. During two years two similar attacks, last two weeks ago. No difficulty in micturition, urine normal. Tumor did not disappear, blood in urine several days, pain constant. Hard, non-fluctuating, non-adherent abdominal tumor, freely movable, unchanged after urination. No stricture, catheter passed with ease, no residual urine. Cystoscopy, vesical mucosa smooth, normal color; ureters normal functioning; prostatic orifice not enlarged; anterior



Large vesical diverticulum (Young) from  
Trans. South. Surg. & Gyn. Assn.



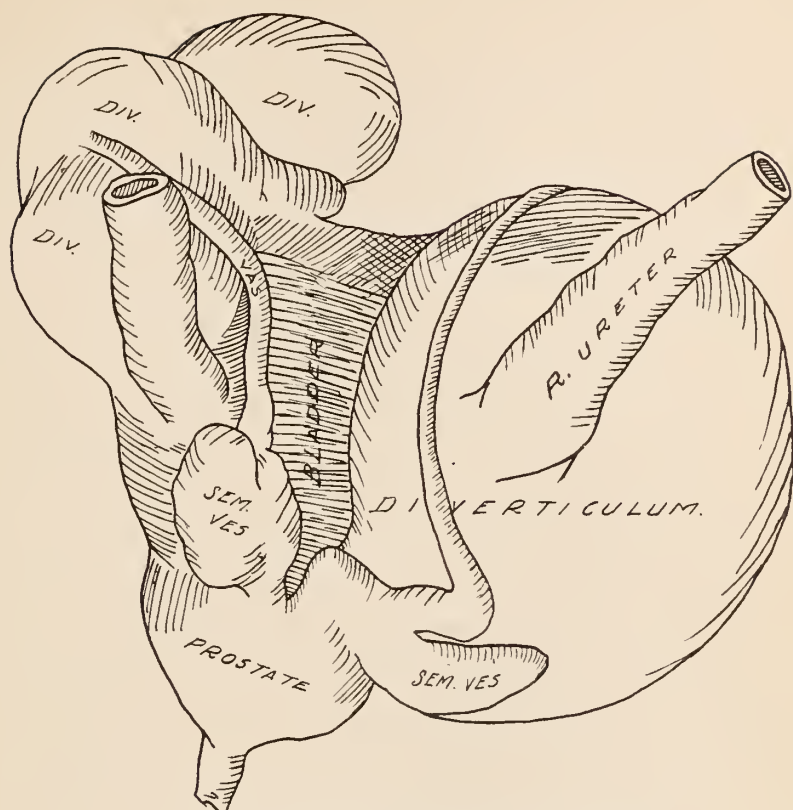
Vesical diverticula (Young, "flap operation")  
from Trans. South. Surg. & Gyn. Assn.

bladder wall depressed: anterior and posterior walls closely approximated. In two days tumor disappeared after voiding large quantity urine. Cystoscopy later showed anterior wall no longer depressed but presenting usual concavity; prolongation or pouch which could not be explored, probably orifice of diverticulum at end of much prolonged vertex near urachus. Operation refused.

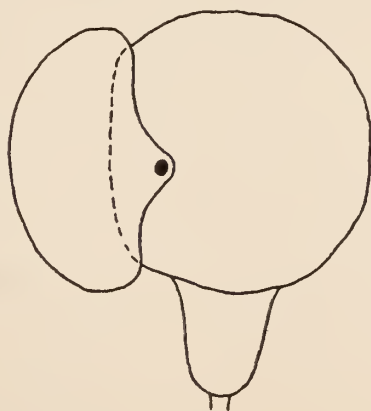
No. 6 (Halsted). Male, twenty-two, gonorrhoea, increased frequency and urgency of micturition five weeks; yellowish-white masses in urine; week or two later bloody shreds, occasionally bloody urine at close of micturition. Hematuria, pain during urination increased becoming intense after completion producing desire to defecate; pain in perineum and back; urine cloudy, contained pus and albumin. Urethral stricture; bladder wall inflamed; no prostatic obstruction. On left lateral vesical wall opening 1 cm. diameter large diverticulum; no other trabeculation or pouch formation. Death year later. Necropsy: Bladder large, attached to left half a diverticulum 8x10x10 cm. obscuring that portion bladder; vesical wall 8mm. to 1½ cm. thick; chronic inflammation. Wall of diverticulum 3 mm. thick, contains smooth muscle bundles extending various directions; mucosa shows round cell infiltration, epithelium often absent.

No. 7 (Ibid). Male, sixty-seven, dysuria two years, micturition every fifteen to thirty minutes; pain suprapubic region and penis, incomplete retention; catheterization three weeks. Prostate enlarged, Coudé catheter passed easily, purulent residual urine 640 c. c. After two days nausea, delirium, retained catheter provided, saline infusions. Cystoscopy (five days later), bladder dirty, irritable, walls trabeculated, numerous cellules; two diverticula, one on each side. Uremia, death in ten days. Necropsy: Hypertrophy and dilatation of heart, arterio-sclerosis, emphysema and chronic congestions of lungs, acute suppurative nephritis, hydroureter, hydronephrosis, diverticula of bladder, etc: numerous vesical trabeculations posterior surface, between these many small cellules. Diverticular walls thin, transmit light. Outer portion wall larger diverticulum 1mm. thick; mucosa shows thin layer epithelium, considerable round cell infiltration; greater part of wall composed of longitudinal layers connective tissue; external to this separated by loose areolar tissue thin layer smooth muscle fibres. In small portion of section external layer fairly wide, bundles smooth muscle fibres observed.

No. 8 (Ibid). Male, forty-seven, dysuria nine months; urine



Multiple large diverticula (Halsted) from  
Trans. South. Surg. & Gyn. Assn. (Young).

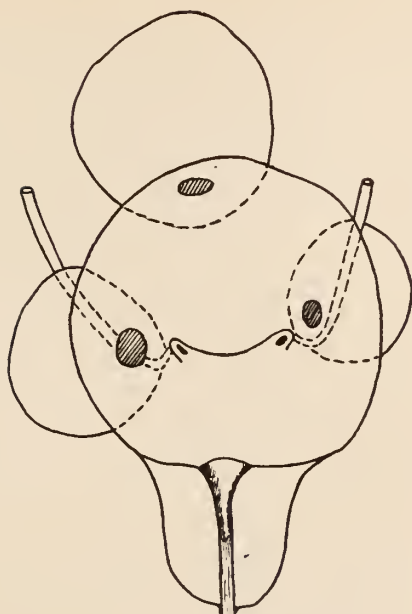


Vesical diverticula (Young) from  
Trans. South. Surg. & Gyn. Assn.

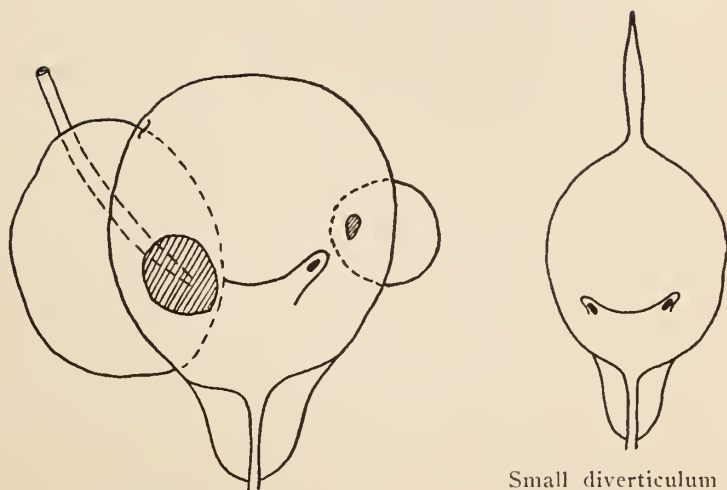
milky, sometimes bloody; catheterization. Abdominal tumor, prostate enlarged; soft bulging right side, presumably distended bladder. Urine alkaline, fetid, contained pus and bacteria; residual urine 250 to 500 c. c. Despite catheterization and vesical lavage urine remained foul, edema developed, death within month. Necropsy: Bladder "more or less covered" by diverticula; right half almost entirely obscured by two small and one large diverticula, posterior part left half by four medium-sized diverticula; little of posterior vesical wall visible. Bladder wall 1 to 2 cm. thick, numerous trabeculations, orifices small cellules and large diverticula between hypertrophied muscle bundles. Diverticular walls thin (3 mm) transmit light; moderate cystitis; no ulceration and no calculi. Section diverticular walls: Beneath peritoneum layer fat and connective tissue 1 to 3 mm. thick; epithelium absent most places but where present is thin and beneath an extensive area of round and polynuclear cell infiltration throughout submucosa; beneath submucosa wide layer longitudinal muscle fibres, external thereto numerous small bundles of muscles separated by connective tissue; here and there round cell infiltration.

No. 9 (Eberts). Male, thirty-two, dysuria since adolescence, chronic urethritis, cystitis, pyelitis; urine cloudy, fetid; retention, catheterization. Pain right flank, bladder extends nearly to umbilicus. Urine acid, contained albumin, casts, pus; residual urine 200 c. c.; micturition prolonged by pressure lower abdomen. Above to right of prostate large boggy mass considered dilated atonic bladder. Cystoscopy: abnormal quantity urine from displaced right ureter. Chronic suppurative pyelonephrosis; nephrectomy, ureter, pelvis, calices dilated; secreting tissue in isolated areas; microscopically numerous small abscesses. Suprapubic drainage. At outer side right ureteral orifice small opening discharging purulent material; through open jaws large blunt forceps, drainage tube inserted, anterior extremity sutured to margin suprapubic wound. Improvement, suprapubic wound closed and reopened several times; micturition readily initiated, declined after passage 240 to 280 c. c.; few minutes later similar quantity voided; or, after catheterization, instrument reintroduced in fifteen minutes evacuated another 180 to 250 c. c. Later cystoscopy, large diverticulum outer side right ureter, cavity large as bladder. Extra-vesical, extra-peritoneal excision, re-establishment suprapubic drainage; convalescence uninterrupted. Diverticular wall consisted of several layers flattened cubical epithelium; well-defined





Vesical diverticula (Young) from  
Trans. South. Surg. & Gyn. Assn.



Vesical diverticula (Young) from  
Trans. South. Surg. & Gyn. Assn.

Small diverticulum in  
urachus (Young) from  
Trans. South. Surg. &  
Gyn. Assn.

submucosa; muscle bundles extending various directions; externally layer loose connective tissue.

No. 10 (Porter). Male, thirty-four, dysuria, urine foul, contained clotted blood. Bladder extended to umbilicus, residual urine 19 to 24 ounces. Treatment declined. Year later prostate enlarged. Cystoscopy, three diverticula, one especially large, orifice right side base of bladder. Suprapubic drainage. Month thereafter bladder reopened suprapubically, orifices of diverticula widely dilated. Patient discharged in three months, leakage still occurred from suprapubic wound. In thirty days epididymitis, pain left kidney. Incision parallel with Poupart's ligament, elastic swelling size banana extending backward and to left of base of bladder; to separate accessory sac from rectum, bladder again opened and finger inserted in diverticulum as guide and retractor; diverticulum excised, orifice closed. Suprapubic drainage, catheter in urethra. Two months later patient much improved, but in absence of urethral drainage leakage still occurred at site of bladder suture.

No. 11 (Billroth). Patient fourteen years old (sex not stated), two weeks previously noted great difficulty and pain in urination and defecation. Urinary retention, catheterization easy. In pelvis near symphysis pubis large cystic tumor. Diagnosis, retroperitoneal sarcoma, death in three weeks. Necropsy: Abscess large as child's head in true pelvis, covered with thick fibrous tissue, two openings pointed toward bladder.

No. 12 (Clark). Male, sixty-eight, ill three years, confined to house two months. Abdominal tumor, thought serous kidney cyst, capacity twelve pints or more. Attending physician tapped cyst withdrawing "seven pints of fluid" (character not stated). Thereafter patient unable to urinate; catheterization, gallon bloody fluid. Catheter used daily until death ten days after tapping, from "hemorrhage, uremia, and circulatory disturbances." Necropsy: Bladder large distended with urine, muscular wall enormously thickened; attached to left side of bladder and communicating therewith by opening inch in diameter a sac (resembling ovarian cyst), while not full contained nearly gallon bloody fluid; no extravasation into peritoneal cavity. Prostate enlarged causing urethro-vesical barrier which had impeded urination; kidneys much diseased, left pelvis and ureter dilated.

No. 13 (Smith). Male, seventy-six, prostatic obstruction, dysuria, five or six years. Abdominal tumor midway between

umbilicus and pubis, apex movable, base fixed, elastic, painful; same size after as before urination. Death in nine months. Necropsy: Prostate enlarged, obstructing urethro-vesical orifice; bladder dilated, hypertrophied, contained quart urine. At summit mucous and submucous coats pushed through between thickened bands of muscular coat formed pouch (single diverticulum) which constituted apex of tumor felt through abdominal wall; ureters and kidney pelvis dilated.

No. 14 (Harrison). Male, sixty-five, operated upon for vesical calculus (crushing) eighteen months before. The urine previously normal after operation habitually purulent, usually alkaline, singularly offensive, though not distinctly ammoniacal. Catheterization, considerable residual urine. Cystoscopy, bladder extensively furrowed and trabeculated. Suprapubic cystotomy, no further calculi, bladder sacculated at two points above prostate. On passing finger into one of the sacs depression came in close contact with rectum; in fact, on introducing another finger into bowel the interval between the two seemed extremely small, which probably explained the peculiar and offensive odor of the urine. Recovery.

No. 15 (Beith). Male, died at advanced age of one hundred and three, urinary incontinence; week before death fell, no local injury but general systemic shock necessitated his going to bed from which he never arose declining gradually without complaint, no appreciable signs of disease, faculties unimpaired. Body presented after death an universally normal set of organs, the arcus senilis wanting. Necropsy: Bladder much enlarged, walls thickened, in some portions presenting columnar arrangement; small opening at inferior fundus led into large pouch containing thick, fetid, greenish-yellow fluid; parietes of sac in sloughing condition. Communication existed between pouch and abscess between bladder and pubes. Prostate enlarged, irregular, schirrous hardness; several brownish calculi varying in size from poppy to millet seed in ducts. Two false passages near prostate leading into sinuses extending backward and communicating beneath and at sides of gland with a large open-work cellular cavity.

No. 16 (Hinton). The author exhibited bladder, left kidney and spleen from man, sixty-eight, six years observation. Dysuria, no urine voided for twelve hours. Previous day edema of lids which extended to arms and lower extremities. Solid tumor right iliac fossa two or three years. Attempt to catheterize failed,

on withdrawal eye of catheter filled with blood seemingly explained by granular urethra. Another futile effort made to guide point of instrument with finger in rectum. Prostate not felt, bladder evidently drawn high up by adhesions to tumor. Later patient voided six or eight ounces urine. Dropsy increased, severe convulsion followed by death. Necropsy: Catheter passed without difficulty, one and half pints urine; bladder adherent and communicating therewith five diverticula collectively making tumor observed in iliac region. Prostate enlarged, drawn out of reach by adhesions: left kidney sacculated, pelvis fourteen times normal size; corresponding ureter enlarged, and from lower part this kidney came what appeared to be a second ureter. Spleen had dense capsule, a pultaceous pulp, calcareous degeneration. Bladder held two quarts.

No. 17 (Mayo). Female, thirty, large abdominal tumor (cyst), dysuria. Incision disclosed cystic tumor unusually adherent, one and half gallons fluid evacuated having odor and characteristics of urine. Enlarged urachus, diverticulum communicating with bladder. Collapsed sac removed, plastic operation closing bladder. Beneath this filling pelvis was an ovarian tumor.

No. 18 (Gaston). Male, over seventy, dysuria, residual urine, catheterization. Perfectly well until age of seventy when urinary symptoms developed. At times when bladder seemed empty, by passing catheter in certain direction, making external pressure over bladder, ten or more additional ounces urine obtained. Vesical diverticulum associated with enlarged prostate. Still under observation time of record.

No. 19 (Wallis). Male, sixty-nine, in extremis, dysuria, urinary retention, bladder distended. (Penis amputated twelve years previously). Abdomen markedly enlarged. Catheterization, half ounce blood-stained urine. As no perineal swelling or discoloration thought urine must have traveled upward into the "porta vesicæ" of Retzius via rupture either through or behind posterior layer triangular ligament. Abdomen opened median line; when recti muscles separated there bulged into wound membranous black looking layer, edematous and sloughing; puncture, two pints foul blood-stained urine. Cavity "pocketed" various fibrous septa passing across it; below was empty bladder which was irrigated, abdominal wound closed leaving large drainage tube in cavity. Death occurred promptly. Necropsy: Bladder hypertrophied, when distended with fluid constant leakage oc-

curred but no perforation observed. On opening bladder numerous enlarged (varicose) veins observed converging toward prostate; several small sacculi present; prevesical space showed large sloughing cavity. The author says it is difficult to explain the somewhat anomalous conditions pointing to both a ruptured and distended bladder which existed in this case; but what seems to have been the probable course of events is that a small sacculi ruptured allowing urine to extravasate into what is known as the "porta vesicæ" of Retzius.

No. 20 (Robelin). Male, forty-eight, traumatic urethral stricture, perineal abscess, urinary infiltration. Death in short time. Necropsy: Bladder trilobed, one pocket on top of true bladder the other behind fundus; mucous membrane upper pocket covered with calcareous incrustations; posterior pocket filled with pus; dilatation of urethra.

No. 21 (Dubar). Male (age not stated), urethral stricture, cystitis, voided pus instead of urine; last passed 3500 grams with slight admixture of urine. Death in few hours. Necropsy: Bladder bilobed, anterior and upper pockets the bladder proper; the posterior harder and lay near fundus, opening 3 cm. diameter, consisted of two cavities the anterior size large hen's egg reached upward to peritoneal reflection; pus in posterior pocket evacuated during manipulation.

No. 22 (Greene). Male, eighty-four, dysuria, six or seven years, never catheterized. Epigastric pain; diagnosis "hydatids of liver." Abdomen enlarged, fluctuating, tenderness right iliac region; prostate enlarged. Catheterization, teaspoonful normal urine. It was inferred bladder cavity nearly obliterated by pressure from morbid growth. Death in ten days. Necropsy: Many adhesions between bladder and cyst walls; bladder thickened and communicated with immense diverticulum which filled abdominal cavity and contained over gallon limpid urine. Bladder thickening most marked posterior wall, maximum one and quarter inches. Communication with diverticulum left side bladder four inches from neck; opening inch and half diameter. Walls pouch composed of prolongation mucous and peritoneal tunics of bladder, muscular coat absent. Prostate large as medium-sized orange.

No. 23 (Fenwick, J. H.). The author exhibited following specimens (London Pathological Society). From a male, sixty-three, large cyst right side bladder, and between the two a carcinomatous growth. Cyst not regarded as sacculus "since it had no



mucosa." Growth had probably led to perforation of bladder followed by escape urine beneath recto-vesical fascia and production of circumscribed cavity or cyst.

No. 24 (Ibid). From a male (age not stated) who presented abdominal swelling median line communicating with bladder, recurrent discharges pus in urine. At fundus large aperture, accessory cavity lined with mucous membrance—a sacculus. Arising from its wall was a carcinomatous growth which overlapped aperture of communication mentioned.

No. 25 (Ibid). Carcinoma of bladder (sex and age patient not stated) accompanied by extensive sloughing and formation of cavity (excavation) bounded by the recto-vesical fascia. The author cited, among other similar examples, one of simple papilloma in a bladder sacculus.

No. 26 (Fenwick, H.). This author also presented diverticulum from carcinomatous bladder. The diverticulum sprang from upper part of male (age not stated) urinary bladder and during life projected suprapubically forming tumor size ostrich egg unaltered after catheterization. Diverticulum filled with pus, evidence severe inflammation. Sudden closure of opening into bladder and consequent retention residual urine by ingrowth of carcinoma covering bladder but leaving diverticulum uninvaded. Also exhibited patient (age not stated) with similar tumor in suprapubic region upon whom he proposed to operate.

No. 27 (Chopart). Male (age not stated), urine voided in thin forked stream; after micturition strangury persisted; by pressure hypogastric region after micturition more urine evacuated. Complete retention, catheterization impossible, instrument could not be passed beyond vesical neck; circumscribed painful tumor near umbilicus, pain radiating to bladder neck and rectum. Second day thereafter red stinking urine expressed, disappearance of tumor. Diagnosis diverticulum of bladder. When bladder completely emptied strangury disappeared for ten to twelve hours. After another attack retention patient succumbed. Necropsy: Bladder double like gourd bottle with deep groove; smaller anterior portion deep in pelvis; v-shaped upper border reached umbilicus, adherent to peritoneum, connected with posterior portion by wide opening; posterior part thin-walled, filled with purulent fluid; gangrenous spots especially parts covered by peritoneum. Prostate enlarged, membranous urethra narrowed; bladder showed many trabeculæ with intervening spaces.

No. 28 (Petit-Mercier). An old man, dysuria many years, urine voided drop by drop; because of narrow urethral stricture introduction of sound impossible. Death within short time. Necropsy: On posterior vesical wall wide sac covered by peritoneum lined with mucous membrane; on pressure pus extruded; connected with bladder by opening 1 to 2 cm. wide; anterior wall muscle fibres like bladder; posterior wall only few muscle fibres. Near this were other vesical pockets lined with ulcerated mucous membrane.

No. 29 (Jones). Male, fifty-three, gonorrhoea, dysuria several years, urethral stricture, cystitis, urine contained blood. Pain severe, urinary retention. Catheter introduced without difficulty, large quantity pus and urine, albumin and granular casts. Subsequent to catheterization patient voided small quantity urine, first dark sherry, later smoky brown, extremely offensive; typhoid condition. Patient declined rapidly, death same month. Necropsy (forty-eight hours after death): Rigor mortis marked; tubercles in small masses scattered throughout apices both lungs; emphysema at apices and free margins; bladder sacculated, one sac contained calculus; prostatic calculi.

No. 30 (Cadge). Female, sixty-one, dysuria presumably due to muscular tumor near external urinary meatus. Symptoms aggravated, bladder sounded, loose calculus discovered. Another encysted stone found by palpation through vagina. After dilating urethra loose round calculus extracted, size of walnut, weight forty-one grains. Encysted stone projected into bladder and during manipulation piece broken off, remaining portion removed from sac by finger and extracted by forceps. Death one week later. Necropsy: Recent general peritonitis, gluing together of intestines; bladder contracted, 2 cm. thick, mucous membrane reddened and thickened; three pockets, one on posterior wall larger than bladder communicating therewith by orifice size of finger, composed of mucous membrane, peritoneum, no muscular tissue; no calculi; wall inflamed and gangrenous, contents purulent. Smaller sac near right ureter composed of peritoneum, muscle tissue and mucous membrane; traces of encysted stone. Third sac still smaller showing no evidence of inflammation.

No. 31 (Pitha). Male, seventy-one, left inguinal hernia thirty years, never wore truss, hernia always prolapsed; colic, vomiting, constipation, tympanites, abdominal tenderness; tumor tense, fluctuating, traceable into abdominal cavity by pedicle four inches thick. Last eight days dysuria, urethral discharge; last

forty-eight hours complete retention; catheterization, 1000 c. c. urine containing blood and pus; prostate enlarged, fever, intestine reducible by manipulation. Tumor made smaller by pressure but returned when pressure discontinued; symptoms of strangulation, death in forty hours. Necropsy: Tumor behind symphysis drawn at right angles into inguinal ring (hernia vesicalis); broad portion behind pubic bone bladder proper, part drawn through ring into scrotum was left side bladder; pressure caused mass to become smaller and bloody urine to flow from urethra. Hernial sac empty. Tumor thin sacculated posterior wall of hernial sac infiltrated with urine and lifted upward on top of bladder, the latter collapsed and hidden by fibrous tissue. On posterior wall a mass three quarters inch in diameter, two small diverticula, bladder perforated by gangrenous tissue; mucous membrane injected, muscularis hypertrophied; bladder opening narrowed by obstructing lobes of enlarged prostate; urinary infiltration reached right kidney; peritonitis near bladder; urethra narrowed.

No. 32 (Harvey). Male, fifty-two, gonorrhoea, "bladder trouble" many years; urinary retention, pain hypogastric region and penis; dysuria, hypertrophy of prostate; cystitis, first acid then alkaline urine. Catheterization, small quantity urine; five minutes thereafter a great deal of pus. Death in short time. Necropsy: Bladder hypertrophic; posteriorly and in region of trigone large sac which held fourteen ounces urine, composed of many layers, communicated with bladder by narrow opening. Sac purulent. Ureter same side had no connection with sac.

No. 33 (Howe). The author exhibited genitals of man (age not stated) upon whom, because of chronic cystitis, had been performed external urethrotomy and dilatation of bladder neck. At autopsy a sac filled with pus found behind prostate. This sac was supposed to be congenital, possibly a diverticulum involving posterior portion of urethra.

No. 34 (Comin). Male (age not stated), enlarged prostate many years, urinary retention, bladder reached above umbilicus forming hard tumor. Catheterization, death in short time. Necropsy: Chronic peritonitis, great thickening (several cm.); on posterior surface of bladder a tumor through which urine escaped under pressure; bladder showed pyriform elongation to umbilicus; mucous membrane smooth, gray, numerous pockets various sizes; posteriorly near fundus two cells communicating with wide cavity not lined with mucous membrane between peritoneal and muscular

layers; what appeared to be supernumerary bladder ruptured into peritoneal cavity, interior traversed by connective tissue bands, purulent, oily black, fetid odor; on opening bladder distinct dilatation near umbilicus, contents urine and pus, lining inflamed; prostate enlarged.

No. 35 (Seydel). Male (age not stated), stricture of urethra; sac on posterior wall of bladder size small apple; fluid in sac yielded little urine but great deal of pus.

No. 36 (Cabot). Male, fifty-seven, lithopaxy vesical calculus weight hundred and sixteen grains. Symptoms not entirely relieved, dysuria, pain in penis, two years; catheterization, residual urine two to three ounces. Bladder roughened, no stone detected; through perineal incision a finger introduced into bladder touched high on posterior wall (barely reached with aid of hand above pubes pressing bladder downward) projecting portion of calculus (enclosed in pocket) which could not be dislodged. Suprapubic cystotomy, calculus size English walnut in pocket neck not larger than small pencil. Month later urine progressively diminished, contained albumin and pus. Death six weeks after last examination. Necropsy: Bladder thickened and inflamed; mucous membrane congested and eroded; not much trabeculated. The dilated ureters were slit to bladder, incisions passing through two pockets arranged symmetrically, one associated with each ureter. One of these pockets had contained stone previously removed. Other pocket contained calculus size kidney bean. On posterior vesical wall other similar pockets not containing calculi. Right ureter and kidney pelvis dilated, contained thick purulent material; interstitial nephritis and pyelo-nephritis. Left ureter dilated, left kidney moderate pyelonephritis. Muscular coat bladder ran considerable way up on pockets ceasing toward apex; outermost portion of pockets composed of mucous membrane surrounded by fibrous tissue.

No. 37 (Pean). Female, fifteen, congenital vesical diverticulum and supernumerary urethra; urinary incontinence from birth. On anterior vaginal wall median protrusion size of nut; pressure over tumor caused urine to escape from narrow opening in median line 3 mm. below external urethral orifice; when supernumerary external orifice obstructed and pressure again exerted gradual diminution in size tumor and patient had desire to micturate. Incision over director along anterior vaginal wall, diverticular tract excised, opening into bladder sutured. Easy recovery.



No. 38 (Czerny). Male, thirty-one, traumatic urethral stricture; urinary retention, cystitis; pain left kidney. To left of median line tumor size child's fist which on compression discharged contents into bladder. Suprapubic cystotomy, greatly thickened bladder with finger-shaped prolongation toward navel; near left ureteral orifice large diverticulum opening admitting finger; the accessory sac (completely filling small pelvis) contained foul urine and epithelial detritus. Suprapubic drainage two weeks without freeing urine from pus. Excision of diverticulum, many adhesions encountered about rectum and in hollow of sacrum; during operation peritoneum and left ejaculatory duct injured. Left dilated ureter which passed obliquely through wall of diverticulum divided and implanted into bladder wall. Diverticular wall contained muscular and epithelial elements. Convalescence retarded by formation ureteral-abdominal fistula. Four months later left kidney, seat of pyonephrosis, extirpated. When patient discharged bladder held 150 c. c., able retain urine two to three hours.

No. 39 (Riedel). Male, sixty-one, dysuria three years, latterly catheterization. Marked enlargement of prostate, prostatectomy. Five months later symptoms obstruction returned, pain right side above Poupart's ligament; perineal section. Month afterward suprapubic cystotomy, large diverticulum communicating with bladder through opening 2 cm. diameter. Accessory sac excised orifice closed; perineal drainage re-established. Collapse and death following day.

No. 40 (Wulff). Male, thirty-four, suddenly lost power of voluntary urination. Catheterization, large quantity urine. Although voluntary micturition subsequently restored there remained residue one litre; condition thought due to disturbance sensory nerve supply. Large tumor right lower quadrant which catheterization failed to reduce, on pressure suddenly discharged into bladder quantity fetid brownish-yellow fluid. Cystoscopy, diverticular opening right side. Incision parallel with Poupart's ligament; diverticular sac opened and evacuated, cavity then tamponed. Three weeks thereafter sac resected and orifice sutured; permanent urethral catheter. Some weeks later owing to failure of bladder suture line, vesical opening again exposed, edges freshened and resutured. In few weeks patient discharged with wound healed, urine voided every three hours; residue 150 to 200 c. c. Wall of excised sac contained epithelial and muscular elements.

No. 41 (Nixon). Male, seventy-seven, sensation "passing



hot wire" during micturition. Eighteen months later vomiting, loathing of food, intensely bitter taste in mouth, intolerable thirst which nothing could quench; loss of flesh, facial aspect and general appearance of man dying of malignant disease. Urine normal, prostate enlarged. Large tumor right side abdomen, painful, pressure caused nausea. Thirst distressing, vomiting, profuse sweating, attacks of syncope, discharges of blood; tumor thought either a disturbed cecum or malignant disease. Subsequently in consultation Dr. Little (of Dublin) insisted that catheter be introduced believing there was a sacculated bladder, but patient refused. Later soft catheter withdrew over three pints healthy urine affording immediate relief. The sacculus soon refilled and symptoms returned; bladder emptied regularly night and morning; symptoms aggravated by distension. Two and half months after beginning use of catheter tumor had completely disappeared.

No. 42 (Shaw). Male, sixty, bronchitis and vesical disease, died five days after admission. Urinary retention month before, catheterization; since then occasional stillicidium urinæ. Prostate large, pressed downward more on left than right side; catheter withdrew moderate quantity urine discolored with blood; instrument used daily, occasionally micturition without assistance. Death apparently occurred "from bronchial disease with partial coma," nothing to direct attention to abdomen. Necropsy: extensive emphysema; recent effused serum and lymph covered intestines generally; more abundant near fundus of bladder which had lobulated appearance. Behind left lobe prostate opening of sacculus admitting finger. This sac had been mistaken for left lobe of prostate greatly enlarged. At center posterior vesical wall another sacculus large as split walnut with opening size goose quill. At fundus edematous sloughing condition of sub-peritoneal cellular membrane; peritoneum thickened, dark colored, covered with flakes lymph. No distinct opening of sacculus detected at fundus, but interstices between muscular bands large and probe passed nearly through into cellular membrane. Kidneys sacculated, much congested, pelves and ureters dilated. From the ease with which probe passed between rugæ little doubt could be entertained that vesical contractions had forced urine between muscular bands and extravasation into cellular membrane occurred.

No. 43 (Solly). Male, fifty-one, urethral stricture, urinary retention, three years; catheter never introduced until three months

before. Blood passed with urine several occasions, finally all attempts to insert catheter failed. Urine first thick alkaline rendered clear and acid by administration dilute sulphuric acid. Improvement, but again stream lessened and for ten days urine dribbled away; efforts to introduce catheter caused profuse hemorrhage, no urine withdrawn. On admission large catheter inserted sufficiently far to reach bladder, but no urine followed: hot fomentations, full dose opium. Next morning (patient having voided little urine) catheter withdrew quantity thick offensive urine containing pus; there still remained irregular painful tumor left hypogastrium. Five days later severe pain in tumor, considerable urine voided, usual pain of retention absent; pulse weak, quick; urine thick, dark colored, extremely offensive. Patient became semi-comatose, death following morning. Necropsy: Urethral stricture, several false passages; muscular coat bladder thickened, several large herniæ of mucous coat between its fibres forming capacious cysts filled with urine communicating by narrow orifices with bladder. These cysts had constituted the tumor in left hypogastrium. Both ureters distended throughout, at intervals swelled into large cysts. Mucous coat of bladder thickened and ulcerated.

No. 44 (Lee). Male, forty-three, "particles of sand" in urine twenty-five years, pain in back; last two months bladder discomfort and urine dribbled away. Sound encountered calculus before entering bladder; thought stone lodged in prostatic urethra this part canal having consequently lost elasticity and power preventing escape urine. Examination caused considerable pain. A staff (almost straight) inserted until stopped by calculus; incision median line of perineum; finger introduced into wound encountered large calculus (calcareous mass) evidently adhering to surrounding parts. Calculus removed, death in three days. Necropsy: Lining membrane bladder congested; cavity small and must have been nearly filled with calculus; it presented several pouches of considerable size; at vesical neck a dilatation half size of bladder itself.

No. 45 (Pagenstecher). Male, thirty-three, dysuria, strangury and tenesmus; distended bladder felt above pelvic brim. After catheterization solid instrument withdrew further amount turbid bloody urine; tumor disappeared. Bladder held one litre. Cystoscopy unsuccessful. Suprapubic cystotomy, in position left ureter opening of large diverticulum. No improvement followed drainage, diverticulum extirpated by sacral route. Left ureter

(which opened into accessory sac) was implanted into bladder at former opening. Self-retaining catheter in urethra. Walls excised sac contained bundles smooth muscle fibres extending various directions, well-marked submucosa. Only few fragments epithelial lining preserved. In addition to sacral fistula suprapubic wound continued to discharge some time. Two months after operation both fistulae had healed, but subsequently sacral fistula re-opened, urine escaping during micturition.

No. 46 (von Eiselberg). In the discussion of Pagenstecher's paper, von Eiselberg cited case of vesical diverticulum (age and sex not stated) in which palpable suprapubic tumor disappearing under pressure was followed by desire to micturate. Diverticulum confirmed by cystoscopy; orifice at base of bladder. Excision of sac successfully practised. Details as to operation and histological examination of sac wall not given.

No. 47 (Gouley). The author dissected and made dry preparation of interesting specimen sacculated bladder. Specimen consisted of bladder with short stump of ureter each side and prostate. On each side of bladder a diverticulum communicated with it by circular orifice admitting index finger. Left diverticulum larger than bladder; the smaller (right side) equal to one third bladder capacity. There were also three smaller diverticula (holding half ounce fluid each) communicating with the largest at its lower and posterior portion. Fibrous (middle) coat sacs one-eighth inch thick.

No. 48 (Ibid). In a case requiring lithotomy, Gouley found calculus partially encysted in anterior wall of bladder, and was obliged to widen the sac orifice before stone could be extracted. In another instance he found calculus one and half inches in diameter in sac of posterior bladder wall, and before extraction could be effected it was necessary to enlarge orifice of sac. Both these patients recovered.

No. 49 (Ibid). In autopsy upon an old man who had suffered some years from dysuria due to prostatic obstruction and stone, and who died with symptoms of pelvic peritonitis, Gouley found adhesions between posterior part of bladder and rectum; on separation quantity fetid pus escaped revealing cavity of considerable size. This abscess communicated with small diverticulum left side lower fundus of bladder. There were a number of other alveoli. In another case there were on right side of lower fundus two peri-cystic abscesses originating in small diverticula.

No. 50 (Routier). Male, sixty, urinary retention, fever; catheterization easy, large amount foul pus evacuated; flow of pus always returned after cleansing bladder. Epicystotomy, bladder contained two small diverticula filled with pus; bladder left open. Death in six days. Necropsy corroborated findings at operation.

No. 51 (Lapeyroine). Male (age not stated), passed pus from urethra, especially when moving about. Two lateral vesical pockets which could not be emptied until completely filled; retention of urine from peri-urethral abscess. Perineal section, death in short time. At necropsy two sacs found lying next an abscess which extended from urethra to right kidney.

No. 52. (Jackson). Male, twenty-three, gonorrhoea, orchitis, chronic cystitis; urinary retention. Bladder tapped, one and half pints stinking greenish pus and urine. Urethrotomy, death few days. Necropsy: Bladder 1.3 cm. thick, mucous membrane markedly reddened; on right side opening leading to sac covered with and overgrown by peritoneum; this sac was source of pus in bladder.

No. 53 (Ahrens). Male, sixteen, dysuria, urine voided drop by drop; coxitis; urinary incontinence, bladder reached umbilicus. Catheterization possible only with smallest instrument. Sudden violent abdominal pain; vomiting of bile, no passage urine; stuporous, pulse scarcely felt; tumor disappeared, abdomen tender. Catheterization, no urine obtained. Patient died promptly. Necropsy: Tubercles both lung apices; enlargement of spleen; intestines and omentum adherent to anterior abdominal wall, marked injection of intestinal blood vessels and peritoneum; pelvis contained fluid and fine particles fibrin; bladder flabby sac containing small quantity bile-stained fluid; kidneys enlarged, tubercles right kidney and ureter; enlargement retro-peritoneal lymph glands; caseous infiltration urethra posteriorly; bladder reddened infiltrated spots; behind trigone a diverticulum with thin walls, rupture had taken place.

No. 54 (Ljungren). Male, twelve, hypogastric pain three years, within year recurrences every six to eight weeks; no dysuria or incontinence. Elastic painful tumor size child's head in hypogastrium; swelling disappeared but recurred. Catheterization, small quantity urine. Laparotomy, large swelling exposed, injection fluid through urethra caused bladder to rise in front of tumor, no communication on injection colored fluids. Opening posterior



swelling large quantity clear urine escaped; walls serous, muscular and mucous coats thinner than those of bladder; lower end of sac ended funnel-shaped behind bladder. Fistula between bladder and abdominal wall remained, same amount urine discharged through urethra and fistulous opening; cystitis posterior bladder. Later wound reopened and posterior wall of bladder united to anterior sac wall; later the surfaces (which had grown together) were incised converting the two cavities into one. Complete recovery. Diagnosis, enlargement lower end Mullerian duct, perhaps union of vesicula seminalis with ureter (Weigert).

No. 55 (Bonnetus). Male, fifty-seven, strangury one year, passage mucus and (red) gravel size grain wheat; latterly micturition possible only by straining in stooped position; rectal tenesmus and severe pain glans penis. Impossible to introduce sound either during life or after death. Six months circumscribed swelling left hypogastrium between linea alba and iliac crest, soft, fluctuating, movable. Pressure produced pain in bladder and flow of urine, swelling refilled when pressure released. Death within year. Necropsy: At internal urinary meatus tumor (sarcoma?); enlargement prostate; vesical walls drawn together, greatly thickened, large number cells and trabeculae; on left side opening of pocket six times larger than bladder with walls of same structure, irregular, covered with peritoneum, occupied entire left hypogastrium; bladder and pocket contained urine lowest portions filled with fetid pus; bladder mucosa not inflamed, that of pocket bluish-red, ulcerated, gangrenous; ureter dilated, left kidney purulent.

No. 56 (Bresnard). Male (age not stated), died from bilateral pleurisy; dysuria several months; micturition facilitated by pressure in hypogastrium. Catheterization difficult, painful, stinking bloody urine. Painful tumor remained right side, considerable reddish urine secured by pressure without complete disappearance of tumor. Death followed severe cystitis. Necropsy: Pelvis filled by tumor size child's head; bladder large, pushed to left; mucous membrane covered with grayish calcareous incrustations; above right ureter a diverticulum, mucous membrane of sac thrown into folds, violet color, covered with incrustations and contained mass of calcareous stones.

No. 57 (Humphrey). Male, nine, vesical calculus five years. Between tuberculum pubicum and pan of ilium left side of bladder hard mass not made smaller on pressure. Perineal section, stone extracted. Examination interior of bladder, opening found



on left side admitting little finger: sac surrounded by indurated structure but contained no calculi. Death followed symptoms of uremia. No autopsy.

No. 58 (Roser). Suprapubic cystotomy (age and sex not stated) for vesical calculus. Death from abscess. Large diverticulum closer to anterior than posterior vesical wall. By pressure left hypogastrium large amount pus evacuated, even after bladder thoroughly irrigated. No calculus in diverticulum.

No. 59 (Norris). Male, twenty-five, vesical calculus; lithotripsy in two sittings. After five days fever, pericystitis and peritonitis. Death in short time. Necropsy: Peritonitis, suppurative cysto-pyelonephritis. On right side of bladder sac large as almond; on left side very large sac which reached to parietal peritoneum. This was origin of the peritonitis.

No. 60 (Leszeynski). Male, thirty-four, inguinal hernia, entero-epiplocele; resection of gangrenous bowel. Vesical diverticulum, Czerny's radical operation. Sixty day vesical fistula developed, self-retaining catheter. Recovery in six weeks.

No. 61 (Durnc). Male, seventy-six, vesical calculi removed several times by lithotripsy. After last removal bladder symptoms, catheterization. Suddenly for short time spontaneous micturition returned; soon peritonitis, great strangury, diminution in quantity urine. Prostatic enlargement; catheterization easy, urine turbid, dark, purulent sediment. Various openings in bladder wall between trabeculae. Patient succumbed, no autopsy. It was undetermined whether perforation of a cell, or of a vesical diverticulum, had occurred.

No. 62 (O'Neil). Male, thirty-five, cystitis six months; urine contained blood, pus, gangrenous detritus. Suprapubic drainage. Death in few hours. Necropsy: Bladder wall thickened and trabeculated; mucous membrane hemorrhagic and gangrenous. On left side large diverticulum containing slough of its entire mucous membrane.

NOTE.—The foregoing represents specimen No. 4968, Warren Museum, Harvard Medical School. Another preparation from the Dupuytren Museum shows sac at posterior portion of fundus of bladder about size of bladder itself; opening small covered with mucous membrane thickened by connective tissue network.

No. 63 (Lannelongue). Male infant, three months, voided urine through umbilical appendix resembling penis also by natural

organ. Umbilical hernia caused by persistence of urachus,—urinary fistula resulting from separation of umbilical cord. Death from broncho-pneumonia. Necropsy: Bladder prolonged by channel large as forefinger (the urachus) to umbilicus extending into external appendix. Vesical contractions during micturition caused stream in both directions (umbilical and urethral), hence the double jet of urine.

No. 64 (Kummer). Male, thirty-seven, right inguinal hernia, one year, incarceration. Herniotomy, interior sac thickened resembling fibro-lipoma; cystic tumor (diverticulum?) size of nut, thin-walled, clear contents; catheter did not reach cyst; vesical injection filled cyst which collapsed on emptying.

NOTE.—De la Porta, Levret, and others, refer to examples of inguinal hernia in which bladder included in hernial sac. They are referred to as possible instances of vesical diverticula.

No. 65 (Civiale). Male, sixty, large diverticulum on bladder vertex reaching superior border symphysis pubis; broadening of vesical wall and lodgment in inguinal region; long-standing incomplete urinary retention, followed by death.

NOTE.—Civiale records two other examples of vesical diverticula, both in males, both fatal; details inaccessible to the writer.

No. 66 (Jabouley-Villard). Male, sixty-five, urinary incontinence long duration; stretching of bladder wall to inguinal canal; large diverticular sac (?).

No. 67 (Ibid). Male, sixty-three, bilateral inguinal hernia; hypertrophy of prostate and vesical musculature; bladder enlarged reaching above symphysis; on lateral wall a horn-like process (diverticulum?) embedded in deep layer fat lodged extra-peritoneally reaching into inguinal canal.

No. 68 (Sebileaux). Male, forty-seven, bilateral inguinal hernia, incarceration. Herniotomy, in left hernia omentum and fat mass; bladder lay as great ampulla in hernial sac; removal of sac followed by urinary fistula. Right side similar findings; reposition, recovery.

No. 69 (Rafini). Male, seventy-six, urethral stricture eight years; incomplete urinary retention, bloody urine; enlarged prostate. Bloody urine disappeared but pus always present. Death in short time. Necropsy: Bladder composed of many cells, pocket on anterior surface large as bladder itself and communicating by

opening 1 cm. in diameter. Interior bladder hyperemic, irregular, looked like tunica vaginalis in hematocoele.

No. 70 (Pilz). Male, sixty-two, dysuria many years; catheterization months; enlarged prostate, cystitis; bilateral inguinal hernia. Herniotomy, thick-walled sac size of walnut, partly black, contained ammoniacal (reeking) urine, incarcerated hernia of bladder, fluid contents evacuated; cavity contained trabeculæ, filled by catheter per urethram. Drainage, obliteration of gangrenous sac. Death in few days. Necropsy: Symmetrical pyonephrosis, ureters thickened, pericystitis; on right side lemon-sized vesical diverticulum reaching into groin, vicinity of sac infiltrated with pus, bladder trabeculated; hypertrophy and incrustation middle lobe prostate.

No. 71 (von Hofmohl). Female, fifty-nine, febrile attack two years before, abdomen enlarged; later diffuse abdominal pain, discharge of pus through urethra. At onset of illness abdomen turgid, spleen enlarged, plastic swelling connected with bladder; catheterization, urine contained greenish-yellow pus. Diagnosis, pericystitis, extra-peritoneal circumscribed focus of suppuration connected with bladder; advancing marasmus, bronchitis. Death in short time. Necropsy: Chronic diffuse purulent bronchitis, left lobar pneumonia. Between bladder and uterus tumor size child's head, anterior portion attached to posterior vesical wall; bladder not thickened, mucous membrane highly pigmented, eroded, nut colored coating; over left ureteral orifice opening leading to tumor which consisted of pus sac with greatly thickened muscular walls, many polypoid and membranous growths with fibrous covering.

No. 72 (Englisch). Male, sixty, dysuria six years; micturition frequent, urine turbid, "kidney sand;" bladder tumor, prostate enlarged, pain in perineum and anus. Suprapubic cystotomy, catheter drainage, diverticulum anterior bladder wall containing pus and urine, vesical wall thickened and trabeculated; vesico-abdominal fistula. Recovery normal micturition. Later examination, no change in diverticulum.

No. 73 (Ibid). Male, forty, paroxysmal dysuria since childhood, recurrence every eight or ten months. Catheterization, residual urine 200 c.c.; diverticulum anterior vesical wall. Operation refused. At end of year residual urine 60 c.c.—catheterization still necessary.

No. 74 (Ibid). Male, seventy-seven, urinary retention several years. Catheterization, urine contained pus and blood. Prostate enlarged, diarrhea. Death in nineteen days from uremia. Nec-

ropsy: Prostate enlarged; vesical mucous membrane inflamed, covered with pseudo-diphtheritic membrane; behind bladder against rectum diverticulum size of fist filled with pus and fetid urine; right ureter and renal pelvis enlarged, mucous membrane injected dark red; kidney atrophic.

No. 75 (Ibid). Male, seventy, dysuria, frequent micturition six months. Catheterization, urine turbid. Bladder trabeculated especially about fundus, mucous membrane throughout engorged, cavity of fundus connected by wide opening with bladder proper. Dysuria continued, pleurisy. Death in sixty days. Necropsy: Retro-urethral diverticulum; vesical mucous membrane covered with pseudo-membranous plaques.

No. 76 (Ibid). Male (age not stated) died in hospital. Necropsy: Prostate enlarged, vesical wall vascular 4mm. thick, trabeculated, reddened, covered with pseudo-membranous patches; peri-vesical connective tissue infiltrated; diverticulum right side of bladder 7 cm. x 8 cm. x 4 cm. orifice over right ureter, sac contained urine and pus; sac wall composed of all layers of bladder.

No. 77 (Pousson). Male, seventy-eight, prostatic hypertrophy, dysuria, two years; recently hemorrhage, pain glans penis. Calculus behind middle lobe prostate. Suprapubic cystotomy, nut-shaped pocket near right ureteral orifice containing pus. Suture diverticular orifice, urethral drainage. Recovery.

No. 78 (Le Dran). Male, forty, urinary retention, vesical distension, swelling larger than bladder right side. Catheterization, large quantity urine, disappearance of tumor (bladder) over symphysis, pressure on second tumor caused passage additional urine and subsidence of swelling. Death in few days. No necropsy. Le Dran assumed second tumor was large vesical diverticulum distended with urine.

No. 79 (Fischer). Male, seventy-five, long-standing "bladder trouble," bloody urine at intervals ten years, partial retention. Catheterization, feeling of fullness remained after emptying bladder. Chronic cystitis, latterly urine ammoniacal. Suprapubic cystotomy, bladder contracted, walls hypertrophied; large diverticulum right lateral wall, opening size quarter; diverticular walls thick, extensively trabeculated, cavity contained urinary sediment, foul-smelling pus, and mucus. Diverticulum drained through cystotomy wound, radical extirpation inadvisable account condition patient. Improvement. Death year later from uremia due to ascending pyelo-nephritis.

No. 80 (Detwiler). Male, sixty-nine, dysuria three or four years, scrotal abscess, urinary fistula, urethral stricture. Death from exhaustion. Necropsy: Bladder much thickened and enlarged, over internal surface numerous small sacs. Bladder almost divided into two compartments by constriction in center; at top of upper cavity pouch size walnut; opening between two principal sacs admitted index finger.

No. 81 (Ferria). Male, fifty-three, dysuria, fever, chronic urinary retention. Hard tumor right side near median line. Sound entered small opening in vesical wall through which calculus could be felt; bladder much trabeculated. Irrigation boracic acid solution, instillation silver nitrate. Suprapubic operation first tried, parasacral section then performed, half sacrum resected, bladder opened and calculus weighing thirty grams easily removed. Following night vomiting, hiccough, diminution urine, no urinary infiltration; third day anuria, death in seventy-two hours. Necropsy: Hypertrophy middle lobe prostate and bladder muscularis; diverticulum originating right upper portion of trigone; anterior vesical wall sclerosed 3 cm. thick, posterior wall 0.5 mm. thick; right vas deferens in sac wall; dilatation right ureter and right kidney pelvis; both kidneys acutely inflamed.

NOTE.—Ferria believes in parasacral section in posterior diverticula, and says that epicystotomy should be avoided, that resection of the sacrum and coccyx are essential.

No. 82 (Johnstone). Male (age not stated), dysuria many years. Three weeks before death abdominal swelling with no definite outline extending from umbilicus into pelvis, seemed to originate from bladder. Catheterization refused, death in few days. Necropsy: Bladder thickened and fleshy adherent to peritoneum by fibrous tissue, reached umbilicus. Although the author only speaks of vesical inflammation, etc., it was probable he had to deal with a left-sided vesical diverticulum.

No. 83 (L. d'Etoilles). Male, sixty-five, violent strangury one year, urinary retention. Catheterization, obstruction at bladder neck, prostatic hypertrophy. Self-retaining catheter. Pain in side with symptoms of pleuritis. Death in eight days. Necropsy: Hypertrophy prostate, two small lobules upper surface lateral prostatic lobes; bladder dilated, hypertrophied; on posterior vesical wall opening leading into pocket same structure as bladder; vesical mucosa healthy, that of sac only partially so, the remainder macerated covered with exudate; in left iliac fossa abscess con-



taining brownish pus; a pus sac surrounding kidney had ruptured into pleural cavity; both ureters dilated.

No. 84 (Zaccharison). Male, eight, after operation for phimosis had urinary retention. Catheterization, followed by severe cystitis. Suprapubic section, bladder divided in two parts by vertical partition; right pocket contained orifice of urethra. Opening in partition size finger surrounded by sphincter, enlarged to treat second pocket; ureteral orifices not located.

NOTE.—In another example credited to the same author there was one diverticulum, left side; phimosis, left pyonephrosis, urinary retention, in a male less than two years old. Suprapubic cystotomy, destruction of septum between bladder and diverticulum; left kidney had two ureters. Patient died.

No. 85 (Hastings). Female, twenty-three, contracted cold end menstrual period, fever two days, diminution of urine, dysuria; pelvic pain, vomiting, headache, backache, constipation, convulsions. Catheterization, ten ounces urine; subsidence of pain. Next day delirium, catheterization, three ounces urine; following day none obtained. Later passage blood from umbilicus, disappearance local symptoms. Twenty-ninth day urine escaped from umbilicus after three days retention. Several days no urine through umbilicus circumscribed swelling umbilical region; on thirty-sixth day ten ounces urine by catheter, two ounces escaped from umbilicus. Symptoms recurred when urine ceased discharging through umbilicus. This took place many times, weakness of bladder supervened, frequent catheterization required. After four months recovery, normal urination.

No. 86 (Cutter). Male, eleven, symptoms vesical calculus one year, dysuria, hematuria; urine thick, alkaline, contained pus; urethra sensitive, phimosis. Sound showed bladder rough (puckered), no calculus. Catheterization every half hour. Fluctuating tumor right iliac fossa, rupture over Poupart's ligament near superior iliac spine, marasmus. Death in short time. Necropsy: On right side over Poupart's ligament opening traversing whole extent iliopsoas sheath; in abdominal cavity pus, flakes of fibrin; viscera in various places adherent to bladder: vesical base indurated; bladder divided into upper and lower compartments by transverse partition with constricted opening; musculature hypertrophied; on posterior wall superior pocket ulcer entire thickness wall involving intestine through which pus conducted to iliac fossa; suppurative nephritis.

No. 87 (Strauss). Male, twenty-nine (idiot), dysuria several years, ultimately micturition every five minutes, pain glans penis, ineontinence, eystitis. Suprapubic eystotomy, two sacs connected with bladder opened and tamponed; sac walls muscular stratum covered with mucous membrane. No connection between sacs demonstrated. Undecided whether diverticula of urachus or bladder proper.

No. 88 (Weissinger). Male, forty, suppurative, putrid eystitis ten years; ulcer over symphysis pubis. Suprapubic cystotomy, two large diverticula containing fetid urine mixed with pus; sacs excised; large vesical calculus. Positive connection between sacs and bladder not established.

No. 89 (Belfield, W.) Male, forty, symptoms vesical calculus many years; urine contained pus. Diagnosis, abscess of prostate. Investigation revealed no stone; endoscope showed fibrous polyp of urethra. Death in five weeks from eysto-pyelitis. Necropsy: Fibrous polyp of bladder, prostatic utricle distended with pus, reaches 1.3 cm. above prostate gland.

No. 90 (Ibid). Male, sixty-two, suprapubic cystotomy for removal of vesical calculus. Death in six weeks. Necropsy: Cysto-pyelitis; utricle masculinus appears as an evacuated abscess and reaches apex of trigonum; in connective tissue between bladder and rectum small abscess which connects with sinus.

No. 91 (Belfield, L.). Male, forty, chronic proctitis five years, urinary retention four years. Suddenly large amount pus appeared, urine voided spontaneously; examination five hours later, prostate swollen. Despite injections and instillations abscess reformed and discharged most effluvis pus. External urethrotomy, abscess cavity everted and drained without favorable result. Inflammation of sinus prostaticus; perineal operation, wall of abscess corresponding to first lobe prostate incised. Abscess healed under irrigations and drainage. Recovery.

No. 92 (Becker). Male, fifty-seven, right inguinal hernia size child's head seven years; incarceration. Herniotomy, sac infiltrated with blood, evacuation. On inferior inner wall considerable thickening; separating overlying layers thin-walled nut-size cyst containing clear fluid, catheter did not reach into cyst. Injections into bladder filled cyst, collapse after evacuation, cyst also emptied by pressure. Obliteration of sac. Recovery.

NOTE.—The author says this case must remain in doubt as to whether it was a vesical diverticulum or a long drawn

out thinned part of the bladder, that the latter appears more probable.

No. 93 (Ibid). Male, forty-five, left inguinal hernia fifteen years, incarceration. Herniotomy, on inner side hernial sac sausage-shaped thin-walled cyst size of finger which collapsed on emptying bladder as tube 3 cm. long 1 cm. wide. Catheter easily reached cyst. Recovery.

No. 94 (Henrotin). Male, sixty, enlarged prostate, prostatocystitis many years. Following introduction of sound into bladder, and pressure of finger in rectum, urine and fetid pus discharged. Bladder symptoms disappeared in two weeks and micturition became normal.

No. 95 (Harrison). Male, sixty-one, prostatic enlargement several years. Catheterization last six months; urine contained blood and pus. Perineal incision, finger located tumor proximal urethral orifice, pressure evacuated large quantity pus. The cavity thus exposed corresponded to the sinus pocularis.

No. 96 (Scalitchew). Male, sixty-seven, since seventeenth year right inguinal hernia; evening before admission pain in hernia, reduction impossible. Herniotomy, decomposed hernial sac fluid, incarceration 25 cm. loop small intestine; enucleation hernial sac. Incision incarcerated mass fat opening bladder, stitched and replaced. Radical Bassini operation, self-retaining catheter. Peritonitis, followed by death. Necropsy: Acute hemorrhagic peritonitis; above and to right of bladder large sac connected with bladder by broad opening,—9 cm. long 5 cm. wide; mucous membrane injected, flaxy diphtheritic coating; edges of mucous membrane adherent.

No. 97 (Hermes). Radical operation for hernia (age and sex not stated), removal of omentum and hernial sac. Death in few days. Necropsy: Perforation of bladder; on posterior wall a saggillation in middle of which was pencil-size opening; mucous membrane not injected.

No. 98 (Hollander). Female, sixty-four, right femoral hernia twenty-five years, incarcerated twenty-four hours. Herniotomy, removal of sac. Six weeks later pain on micturition, persistent mass granulations through which no urine passed; instrument introduced through canal into wide cavity (bladder), metal sound left in situ. No urine passed through fistula, no operation.

NOTE.—The author says it is evident a small diverticulum having anterior position had become isolated from hernial

sac, that an example of such a diverticulum lying in a hernia is afforded in his second case.

No. 99 (*Ibid.*). Female, forty-four, abdominal tumor (dermoid cyst) six years, colicky cramps in femoral fold on urination and defecation with accompanying small tumor. Investigation of bladder, no positive findings. Laparotomy and removal of tumor. On right side of bladder circumscribed mitral sinus into apex of which catheter easily passed from bladder; at apex almost at inner opening of inguinal canal pseudo-cyst size of hazelnut, thin-walled, dark red, containing hemorrhagic fluid. Recovery.

No. 100 (*Habs. R.*). Female, twenty-eight, right femoral hernia fifty-seven days, reposition attempted twelve hours; continuation of incarceration. Herniotomy, contents omentum, sac ligated and excised. Inferiorly on posterior wall hernial sac (which protruded into pelvis) a vesical diverticulum. Dysuria continued, catheterization. Urinary fistula appeared which healed in few days.

NOTE.—This case, as also the following, were shown as diverticular lodgment in the hernia; but it could also be the protrusion of the top of the bladder which by most surgeons is also exhibited as a diverticulum.

No. 101 (*Feilchenfeld*). Male, fifty-one, dysuria, right inguinal hernia sixteen years; radical operation. Hernia contained intestine, reduction, obliteration of sac. Seven days later urinary fistula, self-retaining catheter. Month after operation and withdrawal of catheter infiltration of urine and a fissure (?). Recovery.

NOTE.—In spite of careful investigation for a hernia of the bladder, same was not disclosed on operation.

#### L I T E R A T U R E

- Armand-Moreau, *Bull. Soc. d'Anat.*, Paris, 1857, v. xxvi, p. 220,  
 Ahrens, *Beiträge zur Klin. Chirurg.*, 1894, Bd. viii, 326,  
 Becker, *Beiträge zur Klin. Chirurg.*, 1899, Bd. 23, S. 171,  
 Beith, *Trans. Path. Soc.*, London, 1850-51, v. iii, p. 124,  
 Basscreau, *Gaz. Med. de Paris*, 1833, 2 s., i, 66,  
 Best, *Lancet*, London, 1871, i, 593,  
 Bresnard, *Bull. Soc. de Anat.*, Paris, 1838, xiii, 284-89,  
 Buffiere, *Phil. Trans.*, London, 1700-20, v. 284-286, 1 pl.,  
 Billoth, *Archiv. für Klin. Chirurg.*, Bd. x, p. 524,  
 Bonnetus, *Sepl. Anat.*, Lib. iii, Sect. 25, Obsv. 3, p. 644.  
 Cabot *Poston Med & Surg. Jnl.*, 1892, cxxvii, 191,  
 Cadge, *Lancet*, London, 1884, i, 6,  
 Case, *Bull. Soc. de Chirug. Paris*, (1867), 1868, 2 s., viii, 299,  
 Chaput, *Bull. et Mem. Soc. de Chirug.*, Paris, 1906. N. S., xxxii, 456-8,  
 Chopart, *Traite des Mal. des voies Urinaires*, 1791, p. 52,  
 Civiale, *J. Hebd. d. Progr. de Sc. Med.*, Paris, 1836, ii, 46-50,

- Clarke, *New York Jour. Med.*, 1857, 3 s., iii, 86-90,  
 Crawcour, *New Orleans Med. News & Hosp. Gaz.*, 1855-6, ii, 164-66,  
 Cernezzi, *Gazz. d. Ospedi*, Milano, 1905, xxvi, 232-34,  
 Comin, *Bull. Soc. de Anat.*, Paris, 1840, p. 365,  
 Cutter, *Lancet*, London, 1854, i, 185,  
 Czerny, *Beiträge zur Klin. Chirurg.*, Bd. 19, p. 247,  
 Defoix, *Bull. Soc. de Anat.*, Paris, 1868, xliii, 148,  
 Demeaux, *Bull. Soc. de Anat.*, Paris, 1842, xvii, 14,  
 Dennison, *Virginia Med. Monthly*, 1874, i, 335-8,  
 D'Etoilles, *Raul Gaz. Hebdomadaire*, 1857, p. 127,  
 Detwiler, *Virginia Med. Monthly*, 1888-9, xv, 644-7,  
 Dubar, *Bull. Soc. de Anat.*, Paris, 1880, p. 106,  
 Durne, *Ann. des Mal. des Organes Gen. Urn.*, 1888, p. 416,  
 Deve et Pillet, *Normande Med.*, Rouen, 1909, xxv, 25,  
 Eberts, *Annals of Surgery*, 1909, i, 833-900,  
 Englisch, *Archiv. für Klin. Chirurg.*, 1904, Bd. 73, pp. 1-67,  
 Ercolani, *Mem. Acad. d. Sc. d. Inst. di. Bologna*, 1871, 3 s., i, 568-586,  
 Englisch, *Wien med. Doct. Col.*, 1894,-abst. *Wien. Med. Woch.*, 1894,  
 xlv, 475,  
 Fenwick, J. H., *British Med. Jnl.*, London, 1896, i, p. 726,  
 Fenwick, H., *British Med. Jnl.*, London, 1896,  
 Feilchenfeld, *Berliner Klin.*, *Woch.*, 1887, Bd. 51, S. 40,  
 Fleming, *Trans. Path. Soc.*, Dublin, 1882, 8, 167,  
 Fischer, *Surg. Gynec. & Obst.*, 1910, x, 156-58,  
 Gouley, *Trans. New York Med. Assn.*, 1886, Concord, N. H., 1887, iii,  
 340-53,  
 Gouley, *Trans. Soc. Alumni Bellevue Hosp.*, New York, 1896, p. 137,  
 Greene, *American Med. Times*, New York, 1862, iv, 177,  
 Gaston, *Trans. South. Surg. & Gynec. Assn.*, 1904,  
 Goupil, *Bull. Soc. de Anat.*, Paris, 1851, xxvi, 42,  
 Guibal, *Ann. de Mal. d. Organes Gen. Urn.*, Paris, 1908, ii, 1449-58,  
 Habs, *Deutsche Zeitschrift für Chirurg.*, 1891, Bd. 32, S. 344,  
 Halsted, (Young), *Trans. Sou. Surg. & Gyn. Assn.*, 1904,  
 Harrison, *International Clinics*, 1894, 4 s., iii, 243-53,  
 Harvey, *Lancet*, London, 1840, p. 203,  
 Hastings, by Willis, *Krankh. des Harns. Eisen.*, 1841, p. 61,  
 Harmes, *Deutsche Zeitschrift für Chirurg.*, Bd. 45, S. 291,  
 Hollander, *Berliner Klin. Wochen.*, 1896, No. 42,  
 Hewett, *Lancet*, London, 1863, ii, 97,  
 Hinton, *Medical Record*, New York, 1871, v., 545,  
 Howe, *New York Medical Journal*, 1880,  
 Hodgson, *Glasgow Med. Journal*, 1856-7, iv, 29-34,  
 Humphrey, *Lancet*, London, 1864, i, p. 515,  
 Jackson, *British Med. Journal*, 1881, i, p. 271,  
 Johnson, *Trans. Path. Soc.*, London, 1850-1, iii, 118,  
 Johnstone, *Mem. London Med. Soc. v. 3*, *Richters Chir. Bibl.* Bd. xiii,  
 p. 62,  
 Jones, *New York Med. Journal*, 1857, 3 s., ii, 358-60,  
 Jacquet, *Bull. Soc. de Anat.*, Paris 1887, lxii, 522,  
 Jeanbrau, *Montpellier Med.*, 1908, xxvii, 449-54,  
 Jaboulay-Villard, cit. by Englisch, loc. cit.,  
 Koller, *Weiner Klin. Wochen.*, 1904, xvii, 173,  
 Kummer, *Revue, Medic. de la Suisse Romande*, 1892, p. 235, by Alle-  
 sandri loc. p. 176, *Annal des Maladies des Voies Gen. Urin.* 1901,  
 p. 32,  
 Lannelongue, *La Semaine Medicale*, 1895,  
 Lapeyroine, *Med. de l'Acad. Royale de Chirurgie*, T. ii, p. 278,  
 Lee, *Trans. Path. Soc.*, London, 1862, xiii, 134-7, 1 pl.,  
 Leszcynski, *Centralb. für Chirurgie*, 1891, No. 22,  
 Ljungren, *Nord. Med. Archiv.*, N. F., Bd. vii, No. 9; *Centralb. für*  
*Chirurgie*, 1898, No. 29, p. 725,



- Lendorf, Hosp-Tid Kjobenh., 1905, 5 R. ii, 1689; 1910, 5 R. iii, 129,  
 Marie, Bull et Mem. Soc. de Anat. de Paris, 1905, lxxx, 179-81,  
 Meyer, Centralb. für d. Krankh. d. Harn. u. Sex-Org., Leipz. 1905,  
 xvi, 289-309,  
 McKie, Nashville Journal Med. & Surg., 1851, i, 341-5,  
 Mayo, W. J., South. Surg. & Gynec. Assn., 1904,  
 Mackinder, Trans. Path. Soc., London, 1884-5, xxxvi, 283,  
 Nixon, Verhandl. d. x Internat. Med. Cong. 1890, Berlin, 1891, iii, 7,  
 Nafté, Gaz. Médic. de Paris, 1840, viii, 154,  
 Norris, Gaz. Médic. de Paris, 1839, p. 280,  
 O'Neill, Surg. Gynec. & Obst., 1910, v. x. No. 5,  
 Pagenstecher, Archiv. für Klin. Chirurgie., 1904, lxxiv, p. 186,  
 Palletta, Exerc. Pathol. Mediolani, 1820, 152-5,  
 Parise, Bull. Med. du Nord., Lille, 1874, xiv, 19,  
 Pean, Gaz. des Hopiteaux, 1895, p. 625,  
 Pielicke, Berliner Klin. Wochen., 1904, xli, 508,  
 Petit-Mercier, Gaz. Med. de Paris, 1835, No. 17, u. 18, 1836, No. 53,  
 S. 257,  
 Pilz, Wiener Klin. Wochen., 1891, No. 19,  
 Pitha, Beitrage zur Pathol. u. Therapie Hernien Prager Vierteljahrschr.  
 für Heilkunde, 1846, Bd. i, S. 117,  
 Porter, Boston Medical & Surgical Journal, 1907, p. 819,  
 Pigne, Bull. Soc. de Anat. de Paris, 1842, xvii, 53,  
 Rafini, Lyon Medicale, 1897, No. 18,  
 Reidel, Deutsche Med. Wochen., 1903, p. 801,  
 Ripault, Jnl. Univ. et Hebd. de Med et Chir. Prat., Paris, 1830, i, 97,  
 Robelin, Bull. Soc. de Anat., 1877, p. 210,  
 Roser, Archiv. für Klin. Chirurgie, 1887, Bd. 34, S. 441,  
 Routier, Bull. et Mem. de la Soc. Chir., Paris, 1898, No. 3, by Alessandri  
 Ann. des Maladies des Voies Gen. Urn., 1901, p. 171,  
 Santini, Clin. Chirurg., Milano, 1908, xvi, 297-304,  
 Scarenzio, Ann. Univ. di Med., Milano, 1860, clxxiv, 531,  
 Segalas, Bull. Acad. Med. de Paris, 1836, i, 378,  
 Seydel, Archiv. d. Heilk., Leipzig, 1865, vi, 385-400,  
 Shaw, Trans. Path. Soc., London, 1853-4, v. 198-200,  
 Smith, New York Med. Journal, 1853, x, 359,  
 Solly, Trans. Path. Soc., London, 1850-1, iii, 128-30,  
 Serralach, Ann. d. Mal. Organes Gen. Urin., Paris, 1905, xxiii, 852-71,  
 Scalitschew, Deutsche Zeitschrift, für Chirurgie, Bd. 45, S. 291,  
 Strauss, Centralb. für Chirurgie, 1899, S. 778,  
 Sebileaux, cit. by Englisch, loc. cit.,  
 Tyson, Phil. Trans., London, 1700, iii, 147,  
 Tufnell, Trans. Path. Soc., Dublin, 1868-71, N. S. iv, 101,  
 Vincentelli, Marseille Med., 1904, xli, 687,  
 Von Hofmohl, Archiv. für Klin. Chirurgie, 1898, Bd. 56, S. 205,  
 Wallis, Trans. Path. Soc., London, 1893, xlv, 95,  
 Wulff, Munchener Med. Wochen., 1904, li, p. 1055,  
 Weissenger, Deutsche Med. Wochen., 1897, No. 19,  
 Young, Trans. American Assn. Gen. Urin. Surg., New York, 1909, iv,  
 121-5; Trans. South. Surg. & Gynec. Assn., 1904,  
 Zaccharisson, Upsala Lakareforenings Forhandlingar, Upsala, 1896, Mars.

#### ADDITIONAL LITERATURE.

- Harvey, Lancet, London, 1840-1, i, p. 203, cit. by Englisch, loc. cit.,  
 Robelin, These Paris, 1887, p. 70, cit. by Englisch, loc. cit.,  
 Le Dran, Mem. de l'Acad. Royale, Paris, T. 2, p. 45, cit. by Englisch,  
 loc. cit.,  
 Ferria, 1893, cit. by Englisch, loc. cit.,

- Macadam-Eicles, Atkinson, Belfield (W), Belfield (L), Henrotin, Benevoli, cit. by Englisch, loc. cit.,  
 Frank, Kiel, 1835, Alessandri, p. 171, cit. by Englisch, loc. cit.,  
 Wagner, Archiv. für Klin. Chirurg., Bd. 76, cit. by Fischer, loc. cit.,  
 Reichel, Archiv. für Klin. Chirurg., Bd. 46, cit. by Fischer, loc. cit.,  
 Gueterbock, Die. Chir. Krankh. d. Harn u. Mann. Geschl., 1899, cit. by Fischer, loc. cit.,  
 Rehfish, Virchow's Archiv., Bd. 150, cit. by Fischer, loc. cit.,  
 Durrieux, These de Doct., Paris, 1901, cit. by Fischer, loc. cit.,  
 Keibel, Arch. für Anat. u. Entwick., 1896, cit. by Fischer, loc. cit.,  
 Felix, Handb. d. Entwick. d. Wirbl., cit. by Fischer, loc. cit.,  
 Langer, Prager Zeitsc. f. Heilk., 1899, Bd. 20, cit. by Fischer, loc. cit.,  
 Huldshiner, Centralb. f. d. Krankh. d. Harn u. Geschl., 1899, p. 117, cit. by Fischer, loc. cit.,  
 Kollossow, cit. nach. Allg., Med. Zentralz., 1904, p. 284, cit. by Fischer, loc. cit.,  
 Volpe, Centralb. f. Chir., 1903, p. 517, cit. by Fischer, loc. cit.,  
 Schatz, Archiv. für Gynec., Bd. 3, p. 304, cit. by Fischer, loc. cit.,  
 Mueller, Dissert., Marburg, 1895, cit. by Fischer, loc. cit.,  
 Gleiss, Deutsche Med. Wochen., 1904, 4, cit. by Fischer, loc. cit.,  
 Huppert, Archiv. d. Heilk., 1865, 6, p. 383, cit. by Fischer, loc. cit.,  
 Israel, Archiv. f. Klin. Chir., Bd. 20, cit. by Fischer, loc. cit.,  
 Hagemann, Ref., Centralb. f. d. Harn u. Sexualorg. s., 1906, Bd. 17, p. 652, cit. by Fischer, loc. cit.,  
 Swinburne, Jour. of Cut. & Urin. Dis., 1901, p. 234, cit. by Fischer, loc. cit.,  
 Fueth, Centralb. f. Gynec., 1894, Bd. 18, p. 332, cit. by Fischer, loc. cit.,  
 Fergusson, Proc. New York Path. Soc., 1889, 58, cit. by Fischer, loc. cit.,  
 Pousson, Soc. de Chir. 1900, Dec. 12; Ann. des Mal. des voies Gen. Urin., 1901, p. 1132, cit. by Englisch, loc. cit.,  
 Levret-Porta, Verdier Obs. x and xii,—Alessandri Ann. des Mal. des voies Gen. Urin., 1901, p. 171, cit. by Englisch, loc. city.,  
 The Anomalies and Curiosities of Medicine, Gould & Pyle, Phila.

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## ABSTRACTS

### TREATMENT OF HYDROCELE BY INJECTIONS OF FORMALIN.

Soubeyran (*Journ. des Praticiens*).—A large number of substances have been used as injections for the treatment of hydrocele. Solutions of iodine and carbolic acid are most usually employed. The injection of formalin presents considerable advantages. The only instruments required are a small trocar and a hypodermic syringe. The patient lies on his back and local anesthesia is unnecessary. The site of puncture is decided by the position of the testicle, the trocar being thrust downwards and outwards when it is posterior, or backwards when it is in the anterior part of the scrotum. The selected spot is painted with tincture of iodine and the trocar inserted till it can be felt moving freely in the tunica vaginalis. The needle of the hypodermic syringe is then inserted in the same direction slightly above the trocar and should also be felt moving freely in the cavity. The trocar is then withdrawn to permit the escape of the fluid, care

being taken that the sac is not completely emptied. When sufficient fluid has been withdrawn the cannula is removed, and by the needle of the hypodermic syringe 2 to 4 c.c. of a mixture containing equal parts of formalin, alcohol and glycerine, is injected into the sac. The injection should be made very slowly, the point of the needle being turned about in different directions so as to ensure the distribution of the solution and its mixture with the remaining hydrocele fluid. The needle is then withdrawn, and the punctures closed with a little collodion, the scrotum being well kneaded to ensure the distribution of the injection.

The operation is but slightly painful, and the patient may be at once allowed to go about. After a few hours some swelling and edema occur with a slight increase in the amount of fluid. This reaction is much less marked than after the injection of iodine, and commences to subside in 4 or 5 days, and should be complete in about a fortnight. This method is much less painful than the iodine injection both at the time of operation and during the reaction and avoids the risks of iodism, while as regards freedom from relapse it is at least equal to the other method.

#### RETENTION OF URINE DUE TO MORPHIA.

A. Czapek and S. Wassermann (*Deut. Med. Woch.*). Retention of urine following the administration of morphia is often overlooked, or its significance is misunderstood, as this effect of the drug is not commonly known. The writers record several illustrative cases, all their patients being predisposed to retention of urine, either by old age or some local disease. The patients are invariably men, probably because the sphincter vesicæ in women is too weak to be thus affected. The onset of retention may follow the administration of 1 to 2 cgm. of morphia, and it recurs whenever this dose is repeated. Its dependence on the morphia may not at once be recognised, but as soon as the drug is withheld, the difficulty of micturition ceases. As a rule, the retention ceases spontaneously after the drug has been withheld a few hours, but it is sometimes necessary to pass a catheter, which may be both painful and difficult.

Apart from withholding the drug, treatment consists in applying warm compresses, and keeping the patient in a warm hip-bath as long as possible.

# THE AMERICAN JOURNAL OF UROLOGY, VENEREAL AND SEXUAL DISEASES

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

SEPTEMBER, 1915.

No. 9.

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## THE IMPORTANCE OF SEXOLOGY.

Thinking people are beginning to see that interest in everything concerning the sex instinct and the mutual relations of men and women is not morbid but perfectly natural, perfectly legitimate and perfectly right. People are beginning to see what a tremendous influence the sex instinct has on human conduct, what a tremendous role it plays in our motives, in our actions, in our careers, and what a basic factor it is even where least suspected. People are beginning to see what a great amount of misery and suffering the non-recognition or repression of the sex instinct is responsible for.

Thousands of readers are clamoring for more knowledge, for more books and articles on sexologic subjects. The need of a journal devoted exclusively, or in great part, to sexology, has never been felt more strongly than it is now, and never has the time been more propitious for such a publication.

We have decided to devote a considerable part of The American Journal of Urology to a discussion of the various phases and problems of the normal and abnormal manifestations of the sex instinct. We have on hand a large number of articles by some of the greatest living European sexologists, and their publication will commence with the October issue. We give herewith the titles of some of the articles:

Civilized Sexual Morality and Modern Nervousness.<sup>1</sup>

Sexual Abstinence.

Sexual Hypochondria and Morbid Scrupulousness.

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<sup>1</sup> This is a very important article by Prof. Sigmund Freud of Vienna.

- Incest Among the Mormons.  
 Pollutions—A Psychoanalytic Study.  
 The Double Standard of Morality.  
 Pornography.  
 Sexual Abstinence and Health.  
 Eroticism, Morality and Art.  
 Sudden Death During Coitus.  
 The Wife-Mistress.  
 The Question of Abstinence.  
 Sexual Causes of Timidity.  
 The Change of Life in Man.  
 The Awakening of Sexuality.  
 A Questionnaire on Sexual Abstinence in Men and Women.  
 The Over-rated Importance of Sexuality.  
 Idiogamy.  
 Difference Between Man's and Woman's Love Life.  
 The Reciprocal Relationship of Obesity and Sexuality in Women.  
 A Problem in Sexual Ethics.  
 Sexual Abstinence, Venereal Diseases and Masturbation.  
 How to Prevent an Excessive Fall in the Birth Rate Without Interfering with the Use of Contraceptives.<sup>2</sup>  
 The Sexual Misery of Woman.  
 The Sublimation of Sexuality.  
 Virginity and Sexuality.  
 The Necessity for A Double Standard.  
 The Regulation of Offspring and Sexual Morality.  
 The Prevention of Conception as a Cause of Nervous Disease.  
 The Influence of Castration on the Libido Sexualis.

Many other articles have been promised us, and we request all those earnestly and sincerely interested in the broad, inexhaustible and hardly yet tilled field of sexology to make *The American Journal of Urology and Sexology* their medium of communication. No phase of the sex question is excluded, but we want only the serious and honest student. The sex question is too important a subject to be handled by the flippant and the vulgar.

And we want to emphasize that a study of the sex instinct in *normal* men and women is of much greater importance than in abnormal and pervert types.

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<sup>2</sup> This is a series of three very important articles by Prof. A. Grötjahn, translated from his book, "Geburten-Rückgang und Geburten Regelung."



## REMARKS ON ACUTE ANTERIOR AND POSTERIOR GONORRHEAL URETHRITIS

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**T**RUE acute anterior gonorrheal urethritis is relatively rare, and were it not for its complications this disease would be marked with very little importance as to its care and treatment. It is on account of the very early and vast amount of complications that follow this form of infection that this disease and its treatment hold such an important position in the practice of medicine.

The mild cases of infection run a course of four to six weeks, and these we can say are very few in comparison to the average cases, which at the end of four to six months would cause much satisfaction to both the patient and doctor if cured at this time.

The period of incubation or time that elapses between the suspicious contact and first appearance of the discharge varies from hours to fourteen days. Early cases of urethral discharge appearing within the first thirty-six hours should always cause the physician to be on his guard, for many of these cases, after careful microscopic examination, show other organisms than the gonococcus. Such forms of urethritis may be caused from secretions of the vaginal tract where the female has not been clean as to her person.

Then one must be careful and consider a discharge arising from a chronic form of gonorrhoea, which in many cases appears after sexual excitement. Infections appearing on the late days, say on the fourteenth, must be received with considerable suspicion. In many of these cases a few days elapse before the patient's attention is drawn to the fact that he is suffering from an urethral discharge, and in such cases there will be long periods of incubation. Then, on the other hand, we must carefully go into the patient's history and make sure that we are not dealing with a previous infection.

I believe that the average period of incubation, or about eighty per cent, appears between the third and seventh day. Generally the case that appears on or before the third day is one of very active infection and shows great reaction, with constitutional disturbances, such as fever, restlessness, and mental anxiety. Occasionally we see cases with an urethral discharge that gives no venereal history or that of any exposure. The discharge is mucoid

in character, and on careful examination shows no gonococcus. These cases are generally associated with pulmonary tuberculosis, or in patients suffering from a low vitality.

I believe that it is impossible to make a diagnosis without the assistance of the bacteriologist and the microscope, for these are necessary to distinguish between urethral gonorrhoea and simple urethritis. To help us in our diagnosis the Gram and Löffler's methylene blue stains will allow us to give an immediate decision and at the same time save us from an erroneous diagnosis. With this aid the patient has the advantage of immediate treatment.

To recognize the gonococcus under the microscope one must have sufficient bacteriological training, for various forms of diplococci normally inhabit the urethra. This, under certain conditions, allows a question as to the diagnosis. In questionable cases, and in fact in all medico-legal cases, where testimony is required, the microscopic examination should be supplemented by the aid of culture growths.

In the large majority of all the acute anterior infections, the posterior urethra becomes involved. I believe that fifty per cent of these posterior infections will escape the notice of the physician, for they produce no symptoms and can only be detected when the urine is carefully watched at intervals of every day. Patients will develop acute posterior attacks between visits. The infection will take care of itself and go unnoticed by the physician, due to the extent of time between each examination. For this reason I believe patients suffering from acute gonorrhoea should be seen every second or third day. When the symptoms become marked, then it is easy to make a diagnosis of posterior urethritis.

After the posterior urethra becomes infected then it is impossible for the prostate to escape. Of course in many cases the grade of prostatic infection is so slight that the superficial structure only is attacked, and may go on to complete recovery without producing a great amount of damage. In these posterior infections the membranous urethra seldom shows trouble, on account of its narrowness, compared with the rest of the tract. Its calibre causes a much swifter stream to pass through the urethra at this point, and as a result the gonococci are kept washed from the walls of the canal.

Once the gonococcus reaches the prostate, then it is entirely at home, and is at liberty to wander about at will. It can invade

many structures, such as the seminal vesicles, vas deferens, and epididymis. However, it is surprising when we consider the anatomy of these structures and note how seldom they are infected, in proportion to the number of attacks of posterior gonorrhoeal urethritis. It is a question of how long the gonococcus can live in the urethral canal. Keyes has expressed his opinion that the life of the gonococcus in the human body is about eighteen months. Hugh Cabot believes he would advance this period of time to six months longer.

In the recurrent cases of prostatitis we are always able to find the diplococcus but the gonococcus is rarely found. As prostatitis becomes progressive the symptoms generally become marked. The patient will first complain of an ill feeling. He hardly knows what is the matter with him, and will complain of a chilly feeling and state that he is feverish with an "all in" depressed condition. In a day or two there will be a sense of fullness with slight pain referred to the rectum. The pain soon increases, which is throbbing and bearing down in character. In some cases retention of urine occurs. In the very early acute cases, where both urines become cloudy and the patient complains of marked chordee, then one can be assured that an active infection has taken place in the prostate. In prostates where there is no enlargement we hardly have any symptoms referred to the gland.

As soon as the second urine becomes cloudy, it is well for the physician to examine the prostate per rectum so that he may become acquainted with the size and shape of the gland. This will give him a good idea as to the future changes that will take place in the progress of the disease. Generally an enlarged prostate during the acute stage consists of multiple abscesses which, if continued, become one large abscess. This will cause the stream to become smaller and in some cases produces retention. Rectal examination under such conditions presents the usual symptoms, e. g. swelling, heat, and fluctuation, with tenderness over the entire gland. As the disease progresses in the posterior urethra it may not stop at the prostate but continue to the trigone of the bladder. The trigone is a continuation of the posterior urethra, and an infection of this part will give symptoms similar to those of acute cystitis.

Here one must be careful in making a diagnosis of gonorrhoeal cystitis. It is a question if such an infection of the bladder ever

occurred. Should a true cystitis complicate an acute attack of posterior gonorrhoeal urethritis, the probable cause is that the bladder has been attacked by other pathogenic organisms than the gonococcus. The disease may still be complicated by an attack of acute epididymo-orchitis. True orchitis is caused by mumps, typhoid, small-pox, scarlet fever, influenza, tonsillitis, etc., but very seldom, and there is a question if ever, by the gonococcus. The gonococcus reaches the epididymis by the obstruction in the ejaculatory duct whereby reverse peristalsis draws down the gonococcus through the seminal vesicles and vas deferens. The body of the testicle proper does not become involved and the inflammation is limited to the epididymis. However, the testicles apparently seem enlarged. This is so because it is surrounded by the swollen and inflamed epididymis. Another element which causes the testicle to appear larger than normal is the effusion of serum which takes place into the sac of the tunica vaginalis and causes hydrocele.

#### TREATMENT.

To establish uniformity among the medical profession in the treatment of acute gonorrhoea is hard to obtain because many physicians ascribe their difficulties to the inefficiency of the particular remedy they happen to be using and believe that they can do better by changing to a new remedy. One to be successful in treating such infectious cases must be conservative and consider each individual case. There can hardly be any one line of treatment applied to all cases.

First, we must consider the abortive treatment because we are so often confronted with the question by the patient asking if his case can be aborted or cured in a few days. Many attempts have been tried at these forms of treatment, and I believe that it has been clearly proven that true abortive treatment is useless after the first twelve to twenty-four hours following the appearance of the discharge. If one can clearly consider and picture before him the pathological changes that follow gonorrhoeal infection of the urethra he then will not attempt the abortive treatment in cases of over twenty-four hours' duration. The older methods of aborting gonorrhoea, and some even in use today, are so heroic that they usually cause serious complications and such pain and discomfort that the treatment is worse than the disease.

Wossidlo and Frank have reported that they often cured such acute infection in from six to eight days by their method of irrigating the anterior urethra twice a day with a 1 to 1000 albargin solution either with an irrigator using hydrostatic pressure (Janet method) or a large hand-syringe provided with a rubber tip. After five or six days, if the patient seems cured, a provocative injection with silver nitrate is made, to make sure no gonococci are present. I have taken a number of favorable cases, those that have presented themselves for treatment a few hours after the appearance of urethral discharge, and have tried similar abortive treatments. In place of using hydrostatic pressure I inserted a small soft rubber catheter placed in the anterior urethra and gently irrigated the canal using such pressure that the patient would tolerate. My results at the end of six or twelve days were apparent cures. Close observation revealed to me that all cases were simply under good control and in from a few days to two weeks showed that infection was still present in a mild form and that the regular treatment was the only resource. In some of the cases the increased irritation reacted most injuriously upon the course of the disease. From my experience I have come to think that all early and mild cases of acute anterior gonorrhoeal urethritis should be treated as an ordinary case of gonorrhoeal urethritis.

Hygienic care and diet must be considered by the patient, and if one could have his say, the ideal thing to do in many cases would be to first place the patient in bed for at least one week. I believe this would help wonderfully to allay the severity of all symptoms. Unfortunately, there are very few patients who could do so, or if they could, their friends and relatives would learn of their infection. For this reason we must then resort to some other means, the second best way. Instructions should be given to cut down as much as possible their physical work, and try to have them rest a few hours during the day. Walking, dancing, bowling, riding and other exercises that produce jarring should be avoided. It would be well to wear a well fitted suspensory bandage to support the scrotum. The patient should be advised against sexual excitement, and if troubled with nocturnal erections, sedatives should be given.

Thorough cleanliness of the parts as well as the hands should be insisted upon so as to prevent further infection. In the diet one must simply avoid foods which give rise to irritating compounds in the urine, such as asparagus, tomatoes, rhubarb and all



sour and spiced dishes. As to drinking one must be impressed that the free use of water is one of the most essential things in the treatment of gonorrhœa, and on the other hand, he must abstain from liquors, wines, beers and ginger ale. Ginger ale should be emphasized, for many patients leave the office thinking that as a drink it produces no harm. In my mind I believe that it is a great deal worse than beer. I now apply it in test cases when the patient suggests trying beer. I believe it to be a great substitute for all alcoholic drinks. Careful attention should be paid to the bowels and they should be kept opened. If there is a tendency to constipation the patient should use some form of a saline half an hour before breakfast. Some attention should be paid to the care of the patient's body. His dress should be warm and care should be taken not to expose himself to wet or cold. Keep the feet dry and warm and wear rubbers in rainy or stormy weather. I believe that a moderate amount of exercise, as long as a patient does not overstrain or overheat himself, produces no harm. Of late I have advised more to a full diet, simply asking the patient to discontinue the use of stimulating foods and drinks and a few other foods that tend to irritate the urethral tract. By so doing I believe that the physical condition of the patient is greatly benefited. There is not such a great loss of weight and as a result the patient is in a better physical condition to fight the infection.

Internal treatment will not cure the disease, but when combined with local, renders a certain amount of aid. For example, drugs can be given for the relief of pain and when the urine is highly acid it can be reduced, making urination more comfortable. Today there are two groups of medicines largely used internally by the profession in treating the disease, namely, urinary antiseptics and balsams and ethereal oils. The value of urinary antiseptics, and especially in acute gonorrhœa, has in my mind been overestimated. The drug that I have in mind is hexamethylenamin. Should this drug be used one must be sure that the urine is acid, otherwise it is absolutely useless. The administration of balsams and ethereal oils produces a mild astringent and soothing effect upon the urethral mucosa, thus relieving pain during urination; while the bactericidal effect, I believe, is little if any, they do seem to have a soothing and beneficial effect. These I have found to give better results in acute infection than the urinary antiseptics.

The most important care of acute gonorrhoea is its local treatment, and there has been some dissension among the profession as to when this treatment should commence. Some advocate starting treatment at once, while others advise waiting at least two weeks. Here I believe is the most important question in treating acute gonorrhoea. It will greatly depend on the manner of treatment whether the patient will go on to a successful record or the disease become complicated with many uncomfortable conditions later to be followed by a sub-acute or chronic infection that will require a long time to cure.

For some time the question of early treatment or waiting for a week or fourteen days before starting local applications has caused me to observe the results of early and late treatment. For a time I was afraid that it would be impossible for me to become clear on this point, but today, after carefully considering the final results in both classes of treatment, I believe personally that energetic treatment should be started at once in almost all cases of acute gonorrhoea.

Of course there will be a few cases where intensely inflamed and edematous meatus and very sensitive canals will contra-indicate this treatment for a few days. However, in very skilled hands I believe that this condition can be overcome if treatment is given by the physician. If local treatment is deferred the gonococci will have time in the interval to proliferate deeply into the mucous membrane and glands along the wall of the urethra. The virulence and proliferating capacity of the gonococci is great without the aid of some antiseptic. The principle of local treatment is to bring about the destruction of the gonococci with as little damage to the urethral mucosa as possible. Here one should consider his case, and if considerable inflammation is present, all treatment should be carried out by the physician in charge. Local treatment carried out by the patient when such conditions exist is liable to add more trauma to the infected urethra and the results will be correspondingly unfavorable.

If no great amount of inflammation is present local treatment should begin at once. A silver salt should be used four to six times in twenty-four hours by means of a hand syringe. Microscopic examinations should be made at short intervals so that we may notice how fast the gonococci are disappearing. This with urethral symptoms will guide us in increasing the strength of our

injections. About 70 to 80 per cent of acute gonorrhoeal urethritis travel back and infect the posterior urethra. This may occur early or during the third or fourth week of the disease. The discharge may have become thinner or disappeared. If the attack is short we recognize the symptoms by frequent painful urinations, severe pain of the urination referred to the deep perineum and turbidity of the second portion of urine. With this condition the same form of judgment will have to be exercised as in starting treatment in acute infection of the anterior urethra. After severe acuteness has subsided local treatment should be started. A soft rubber catheter is passed into the anterior urethra, this is gently irrigated by means of a large hand syringe, the catheter is then carried beyond the membranous urethra and by means of the hand syringe the solution is injected through the posterior urethra into the bladder. The patient then rises and empties his bladder, this giving the posterior urethra a double flushing. This method should be carried out every second day while the patient injects daily the anterior urethra. This method, I believe, in the hands of experienced men will give marvellous results.

During the course of treatment it is desirable at least once a week to examine the discharge microscopically and watch for the disappearance of the gonococci. When this occurs and all glasses of urine remain clear after the patient has held the urine for four to six hours, the prostate and seminal vesicles are looked into and their secretions are carefully examined microscopically for the presence of gonococci. If they are found to be free then a gonorrhoeal fixation test is done, and if found to be negative, the patient may be discharged as cured. In the majority of cases when the above course of treatment is carried out, a cure may be expected in from six to ten weeks.

However, there are a certain number of cases that remain persistently chronic regardless of treatment, and the patient will complain of morning drop. In many of these cases the gonococci cannot be demonstrated. The lesion may be a soft infiltration deeply seated in the submucosa or various glands or lacunae may keep emptying their secretions into the urethra, thus keeping up a slight discharge. With such conditions we must now resort to the invaluable use of the urethroscope, which will in most cases reveal the source of trouble.

## FALLACIES IN URINALYSIS.

*A High Specific Gravity and the Reduction of the Fehling's Solution Not Always Indicative of the Presence of Glucose in the Urine.*

BY WILLIAM SCHAEFER, M. D. Kansas City, Mo.

THERE is a prevalent belief among physicians, sanctioned by authority, that a high specific gravity of the urine is always indicative of the presence of glucose. There is also another belief, *pari passu*, that if a sample of urine possessing a high specific gravity be heated with the Fehling's solution and happens to be reduced, i. e., loses its blue color, and turns grayish-yellow, it contains saccharine matter. These beliefs are only half-truths. They are based upon the fallacious paralogism of *post hoc, ergo propter hoc*. Many of our beautifully constructed inferences, based upon hasty generalizations and the simple routine of guess work of untrained observers, are brought to naught by the patient, persistent and accurate study of those trained in the advanced methods of scientific research.

No doubt the intelligent physician, who has frequently examined specimens of urine, has made the observation that urines which possess a high specific gravity, promptly reduce the Fehling's test when heated. Of course, the immediate and natural inference arrived at is that urine possessing a high specific gravity and having the property of reducing the Fehling's solution contains glucose. It is the purpose of this article to demonstrate the fallacy of such views derived from hastily drawn conclusions, based upon imperfectly interpreted physical and chemical reactions. In the instance just quoted a wrong diagnosis is often made and the applicant for life insurance is rejected by the examiner, or as the case may be in general practice, is subjected to an enforced treatment and diet for a supposed glycosuria. Such a mistake is likely to be the cause of much unhappiness on the part of the person examined.

The conditions which bring about a concentration of the urine are the following: The specific gravity of the urine may be increased by the abstinence or diminished ingestion of water, by copious diaphoresis, or a drain of water from the body may take place through other channels than the kidneys. In the first stage

of acute fevers and acute Bright's disease, in gastro-intestinal affections, in consequence of the increased amount of solid matter excreted and diminished water separation, the specific gravity is markedly increased. If a specimen of high-colored acid, concentrated urine be treated with Fehling's solution and then heated, the blue copper solution will be instantly decolorized; the copper is converted into a cuprous condition, but remains in solution. There will be no precipitation of cuprous hydroxide, nor will there be a sediment deposited on the sides of the test-tube. Persons complaining of gastro-intestinal disturbances frequently void urine containing reducing substances which immediately decolorize the Fehling's test when heated.

There are certain reducing substances in the urine which are likely to affect the efficacy and conclusiveness of the Fehling's test. They are collectively known as the reducing substances of the urine. They are uric acid, creatinin, hypoxanthin, indican (potassium indoxyl sulphate), hippuric, oxybutyric, skatoxylsulphuric, glycuronic, alkaptonic, pyrocatechin-sulphuric acids, etc.

A sample of urine containing an excess of uric acid when heated with Fehling's solution at once reduces the blue solution which turns grayish-yellow. A sample of urine containing indican, when treated in a similar manner, reduces immediately the Fehling's solution. The menstruum does not deposit the copper in the form of cuprous oxide. The cuprous oxide remains dissolved in the solution.

In searching for the presence of glucose in the urine no doubt many physicians have been perplexed and misled by the sudden change of color, the latter being blue and then changing rapidly to a greenish-gray or grayish-yellow when heat is applied. This rapid disappearance of the blue color of the Fehling's solution when heated, would naturally mislead the casual observer when testing for glucose. The first conclusion arrived at would be that he is dealing with a sample of urine which, according to his attitude of mind, is unquestionably saccharine. Many forget the truism that knowing and knowing how are two different things and this applies to urinalysis as well as to other branches of knowledge. Indeed, it requires a certain kind of personal equation, which is endowed with knowledge and experience, known technically as the proper *tactus eruditus*, that is essential in order to elicit or find out the finer phases of chemical differentiation. For



the tyro and inexperienced it is practically impossible to interpret correctly the findings obtained from fallacious chemical reactions.

The well-known instability of Fehling's solution greatly detracts from its usefulness. It is an observation belonging to the inner circle that the clinician does not solely rely on the Fehling's solution when searching for glucose, because of the discrepancies encountered in the ordinary urinary testing. The strange results, often in utter discord with the clinical symptoms, have caused him to rely less on the Fehling's test as a reliable and unfailing index for the presence of glucose. "It is necessary, however, to be familiar with more than one test, because cases of doubt arise where the evidence of one is insufficient. With all tests, there are certain evident reactions and certain doubtful ones, and to interpret these last, experience must often be relied upon." (Tyson).

The writer has realized for years that we are dealing here with a process of chemical reduction. He has searched in vain for a confirmatory, satisfactory explanation of this phenomenon in our standard works on urinalysis published in this country, but to his surprise was rewarded with a paucity of information, which could not even be used for the preparation of this article. Some of the books contained no reference whatever to this reaction. Not being satisfied with our standard works on urinalysis published in this country the writer consulted the works of German authors, who have investigated this misleading reaction with admirable and characteristic thoroughness.

A clear and logical presentation of these changes of reduction may be found in Dr. Richard Neumeister's "Lehrbuch der physiologischen Chemie mit Berücksichtigung der pathologischen Verhältnisse," 1897, pp. 747-748, as follows:

"The normal urine contains substances which combine with oxygen with avidity. One can be easily convinced of this fact if a dilute solution of potassium permanganate be added to the urine, which becomes immediately decolorized. This explains the fact that the normal urine reduces also to a slight degree an alkaline copper solution if heated, whereby among other unknown substances certainly uric acid, creatinin, pyrocatechin and glycuronic acid, participate. But the cuprous oxide thus formed does not separate from the normal urine as in the case with a solution of glucose or a strongly saccharine urine as a red or yellow powder, but remains in solution, and the blue-green solution

changes to a yellowish-green or yellow. Uric acid, creatinin, and partly also the coloring matters of the urine, hold the cuprous oxide in solution. After prolonged boiling the urine becomes turbid from strongly contaminated yellowish-green cuprous-hydroxide, which is deposited with difficulty and in an exceedingly finely divided state, and is capable of passing through the pores of every filter. This phenomenon of reduction of the urine, which is not occasioned by the presence of abnormal quantities of grape-sugar, will take place more intensely the more concentrated the respective urines are. This is especially the case in the febrile urine. But even in this instance it is rare that a typical separation of cuprous oxide takes place, because with the increased presence of reducing compounds there is also at the same time an increment of substances that render cuprous oxide soluble, which, indeed, are partly identical with the first."

Dr. F. Röhmman in his very excellent book ("Biochemie: Ein Lehrbuch für Mediziner, Zoologen, und Botaniker," 1908, p. 348), explains the chemistry of these reduction changes in a lucid and distinct manner: "Creatinin is capable of being oxidized just like creatin, with the formation of methylguanidin. Upon this depends the ability of creatinin to reduce the Fehling's solution, a property which is elicited in the examination of the normal urine. The alkaline copper solution is decolorized by the urine; the cuprous oxide, however, does not separate as a precipitate, but is held in solution by the urine."

It is apparent that this greenish-yellow or grayish-yellow decolorization of the blue Fehling's solution with urine possessing a high specific gravity is likely to cause an erroneous interpretation of the chemical test applied. As it interferes greatly with the employment of the copper test it is evident that it should not be depended upon in doubtful cases. In drawing conclusions from the Fehling's test it should always be remembered that a change of color does not indicate glucose and that substances in the urine *other* than glucose may quickly decolorize the test solution when heated to the boiling point. An error of this kind is the cause of a faulty diagnosis in many instances, for, on the supposition that the urine contains glucose, the patients may be credited with being afflicted with glycosuria. Indeed, it is absurd to expect a reliable and accurate information from diletantti, who boldly examine a specimen of urine, not knowing that it contains reducing

substances. *MULTI MEDICI PLANE IN DIEM VIVUNT*, entertaining the delusion that with their limited fund of information they are capable of meeting any emergency.

It is the aim of the writer to dwell on some prevalent professional customs, the prestidigitations of modern medical thaumaturgists, who practice certain medical ceremonies or rites, though enjoying the sanction of the rank and file, that are, nevertheless, from certain advanced chemical points of view, more or less the primitive efforts of laboratory amateurs. I mean here our modern uroscopists or uromantes, commercially speaking. It is a fact that we are still living *IN VINCULIS PRAETERITORUM*. Uroscopy and uromancy are practiced as of yore by certain speculative physicians in a purely business manner. "Send me a sample of your urine!" says the *CHVELIER D'INDUSTRIE MEDICALE* to his patient. Often the sample is not "looked" at, much less "examined"! In the presence of his patient the uroscopist (inspector of the urine) looks with *L'ÉCLAT ET LA POMPE DE SON STYLE* at the test-tube containing the urine! It is to be regretted that urinalysis has at times been used largely for effect, as an ostentatious display and as a means of impressing patients with the wonderful manipulative skill and chemical knowledge of certain uromantes.

The purpose of this article is to direct the attention of life insurance examiners and those engaged in general practice to greater vigilance and accuracy in making examinations of the urine, especially in the detection of glucose. With rather an extensive experience in urinalysis the writer is justified to sound a note of warning in regard to the careless manner in which some of these analyses are really conducted. The writer is aware of the fact that in quite a number of instances injustice was done to the applicants for life insurance, because of their rejection for a glycosuria which did not exist. Incompetent, inferior, quasi-medical examiners, especially the *MEDICI RERUM CIVILIUM PERITI*, succeed in getting into life insurance companies, just as certain individuals do into all other situations and professions, to the detriment of the body medical and social, according to the Gresham law eliminating worthy physicians who are well qualified, who have served their time, and are men of ability.

FOR THE AMERICAN JOURNAL OF UROLOGY.

## A COMBINED EXAMINING AND OPERATING URETHROSCOPE

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Four years ago this instrument was brought before the British Columbia Medical Association. Since then I have used it exclusively and many other Canadians prefer it to other types. Believing that American surgeons would appreciate having their attention called to it, the accompanying halftone and description is submitted:

The instrument is a combination of Windham Powell's English, Koch's American and Luys' French urethrosopes. It can be used with or without air dilatation, its lamp is protected so that it does not get soiled, or interfere with swabbing the urethra, and the field is magnified.

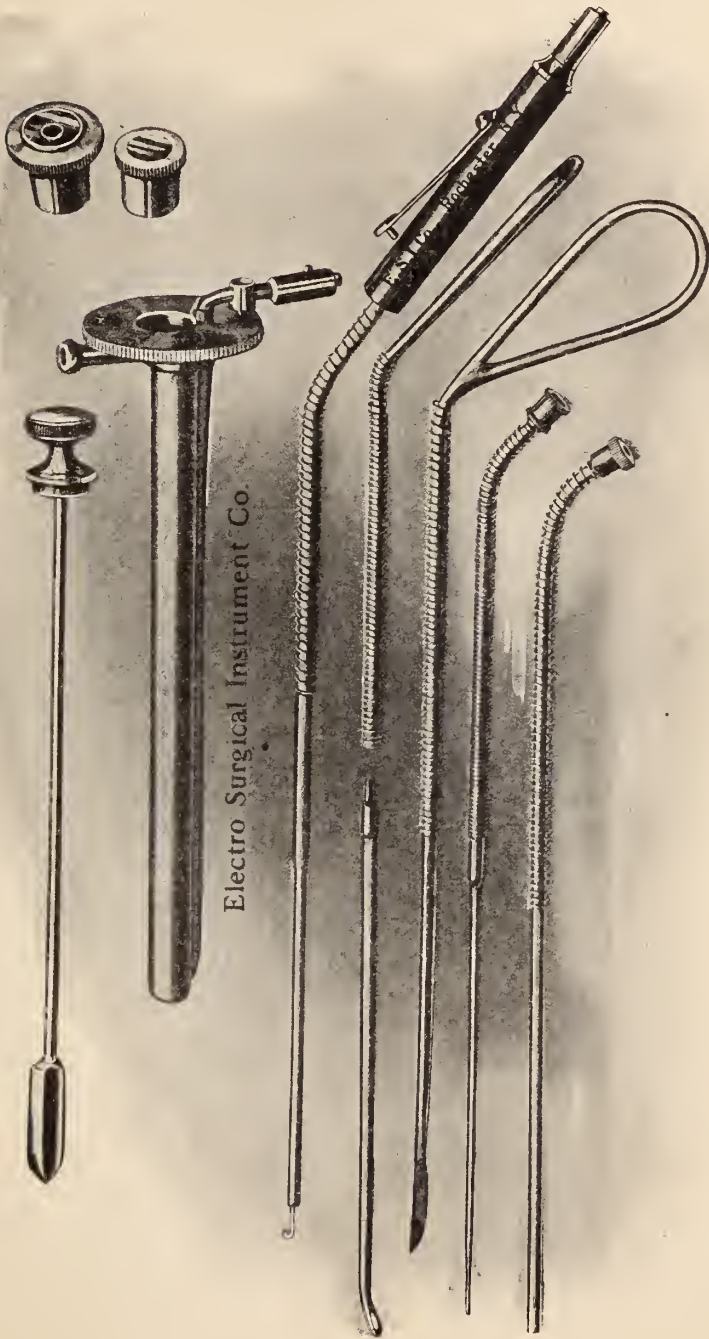
It is simple in construction and in use and it is efficient in any work an anterior urethroscope can be put to.

I generally use it with air distention as this is the most comfortable way for the patient with any endoscope. If the meatus will admit the open tip of the urethroscope an obturator is not necessary. It is inserted about one quarter of an inch, the lens put in place, the lamp lit and the patient asked to press the dilating bulb. Unless strictured too badly the urethra opens up and its walls can be examined in advance of the tube which is gradually sunk to the external sphincter. At any time during this examination if the non-dilated rosette picture is desired all that is necessary is to withdraw the plug connecting with the air bag and the urethra collapses.

A perforated lens and suitable instruments are provided for operative work. These also, I think, have the maximum of simplicity and efficiency.

Different calibre urethroscope tubes are obtainable.

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Gordon's Combined Examining and Operating Urethroscope.



## SARDOU'S TEST FOR BLOOD IN THE URINE.

BY CHARLES GREENE CUMSTON, M. D. Geneva, Switzerland.

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**T**HE detection of blood in the urine by phenolphthalein has many practical applications in cases of mild hematuria or hemoglobinuria, when by simple inspection the urine presents an almost normal color. Slight hematuria is frequent in acute temporary nephritis due to an injection or intoxication. Meyer's reagent detects a nephritis which clinically would have passed unnoticed, while the phenolphthalein test makes a distinction possible between a congestive and degenerative nephritis.

In prostatics of long standing, vesical decompression sometimes results in very mild hematuria with distinctly turbid urine and a delicate test is, under the circumstance, required for the detection of blood.

Whenever the test for albumin in the urine is necessary, if it is in small amount, it is essential to look for the presence of blood, which otherwise might give rise to erroneous conclusions as to the amount of albumin. In these instances microscopical examination is insufficient because certain urines are directly toxic for, and have an osmotic action on the red blood corpuscles, so that the transudated hemoglobin can only be recognized. Clinically, there is a sign of the greatest importance in the diagnosis of certain lesions: I refer to hematuria set up by walking or other exercise in subjects having oxalic gravel, urinary lithiasis or nephroptosis.

Lithiasis frequently has a rather indefinite symptomatology. There may have been a little gravel in the urine, and also, perhaps, some vague lumbar pain which may be just as likely due to some intestinal or hepatic disorder as to one of nephritic origin. But when the latter is in play the important symptom of provoked hematuria becomes added. Walking, riding in a carriage, automobile or railway is usually quite enough to cause a minute hemorrhage, which can not be recognized by merely inspecting the urine. But if the patient is kept quiet for a day and one ascertains that the urine does not give a positive phenolphthalein reaction, the

following day the patient is made to take a long walk or some exercise, after which the 24 hour urine should be collected. If traces of blood are found in the urine at this time, this fact will be very greatly in favor of the nephritic origin of the lumbar pain or colic.

There are, nevertheless, those not infrequent cases in which, to the lithogenic process, urinary injection becomes added. The calculus becomes coated with mucus, preventing it from causing trauma to the renal structures, with the result that hematuria does not ensue after exercise, even when fairly severe. In cases of oxalic gravel slight hematuria may be encountered, due to the passage of the oxalic acid crystals over the urinary tract.

The hematuria by tuberculosis usually occurs when a cloudy polyuria and renal tumefaction have been present for some time. But at the very beginning of the disease it is not uncommon and the presence of blood can not be detected other than by very delicate tests, because the amount contained in the urine is small. Its detection is of great clinical importance, all the more so because it takes place in subjects apparently in good health, with clear urine, which only becomes cloudy later on when its reaction has become weakly acid or alkaline. The hematuria at this stage of the process is solely due to renal congestion and to the nephritis accompanying the tuberculous lesion.

In renal cancer the hematuria is of great diagnostic value; it is spontaneous, free and more considerable than in tuberculosis and appears without any appreciable cause. But beside the hematuria in which the blood is intimately mixed with the urine and can be detected by simple inspection, there may be only a microscopical hematuria, whose detection has a great semeiological interest, and it is in just such cases that Sardou's procedure finds an important place in urological diagnosis.

This technique is as follows:

1. Meyer's phenolphthalein reagent:\*
2. Acetic alcohol:
 

Acid. acetic. crystal.	2 cc.
Alcohol 90%	98 cc.
3. Peroxide of hydrogen at 12 volumes.

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\*NOTE. The preparation of Meyer's reagent is carried out as follows:

Phenolphthalein 2 grammes, pot. hydrox. 20 grammes, dissolved in aq. dest. 100 grammes; to which is added *impalpable* powd. zinc 10 grammes. This is brought to the boiling point, when the mixture will be red, but progressively becomes decolorized from the reduction of the phenolphthalein into phenolphalin.

Three cubic centimetres of nonfiltered urine, just made homogenous by shaking, are poured into a test-tube; then three cubic centimetres of acetic alcohol are added. The tube is then shaken and one cubic centimetre of Meyer's reagent is added and after again shaking, three drops of the oxygen water are added.

If the urine contains blood a more or less intense rose color should appear, according to the amount of blood contents present. The commencement of the reaction takes place from a few seconds to three minutes after the addition of the oxygen water and it retains its intensity for some time, a condition which does not obtain by the ordinary test. This technique is quite as reliable as a microscopic examination and it has this advantage over the latter that according to the degree of molecular concentration of the urine, due principally to the chlorides, the globules often undergo hemolysis and can not be seen microscopically. Of course, in hemoglobinuria the microscope is useless.

Sardou's test offers considerable advantage over the older procedures with tinct. guaiacum or benzidin, and the originator is of the opinion that the great delicacy of his method is due to the introduction of the alcohol which favors hemolysis and oxidation. As to the acetic acid, its action is to facilitate oxidation and favor the appearance of the color reaction. By experimentation, Sardou has been able to obtain a slight rose color at the end of 5 minutes in a urine diluted to 1-5,000,000 and he shows that one may distinctly detect traces of blood in the urine when diluted to 1-1,000,000, while with the ordinary process it can only be traced in much more concentrated solutions.

In order to increase the delicacy of the test, which would be decreased in loaded urine, having an abundant precipitate and somewhat highly colored, he proceeds as follows: Three cubic centimeters each of urine and acetic alcohol, with one centimetre cube of Meyer's reagent are put in a test-tube and after shaking it is filtered and four cubic centimetres are poured into a test-tube to which two drops of oxygen water are added. A more distinct reaction is thus obtained.

Sardou also says that no other body in the urine can give rise to the reaction, such as albumen, glucose, urobilin, bile pigments, indican, the phosphates, acetone or uric acid. The same applies to the presence of drugs, such as antipyrine, the iodides and bromides, salicylic and carbolic acids.

Can pus in the urine cause a positive reaction? The answer to this is *usually not*. It is probable that the leucocytes contain an oxidizing ferment capable of influencing the reaction, but this action is not always manifest. Therefore, it may be said that pus may give rise to the reaction but for this to take place the pus cell must be destroyed and its ferment set free. There is possibly a production of peroxydases from the bacteria present and from this arises the necessity of using only urine that is fresh and properly preserved.

In case of doubt all that is necessary is to boil the urine for a few minutes and allow it to cool. The peroxydasis of the pus or bacteria is destroyed. The heat in no way alters the action of the blood pigment.

If I have dwelt somewhat lengthily on Sardou's test, it is because I have found it of great value and very reliable.

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FOR THE AMERICAN JOURNAL OF UROLOGY.

### THE SEXUAL FUNCTIONS FOLLOWING SUPRA-PUBIC PROSTATECTOMY—(FREYER'S OPERATION).

BY L. E. AYBARD, M. D. St. Domingo.

**I**T is somewhat difficult to exactly appreciate the causes which may produce varying results of suprapubic prostatectomy from the viewpoint of the sexual functions. There is the question of advanced age of the patient, but that alone is not enough. Evidently it is due to a difference in technique and, therefore, the anatomical results should be studied. It is probable that the suppression of the ejaculation is simply exterior in the majority of cases; coitus can be indulged in as before but without external ejaculation, this taking place towards the bladder. This is Young's theory and it is upheld by some others. To make sure of this, the patient should micturate immediately after coitus and the spermatozoids be searched for in the urine. One can readily perceive that such researches are not easy of execution.

Many operators give scant information as to the sexual functions after prostatectomy. Freyer himself affirms in numerous writings that he has never met with weakening of the sexual power after his operation, but upon reading his case-reports it is difficult

to discover any precise facts in this respect. Carlier is of different opinion and has freely stated that suprapubic prostatectomy has given him disappointment from the genital standpoint and the preservation of the sexual functions. He asserts that no assurance can be given in this respect to patients. Von Frisch says that following perineal prostatectomy patients lose their sexual power, but that this loss appears less certain when the suprapubic route is followed.

Young and Fuller have noted an improvement in the sexual power after suprapubic prostatectomy. Pauchet also considers that after Freyer's operation the sexual functions are maintained, while Suter of Bâle found that they were retained in nine cases that he operated by this method. In 1908, Desnos expressed himself as follows: "The patients operated by the suprapubic route state that their functions (sexual) have not been weakened; one of them, who had no erections before the operation, pretends that his genital functions have returned." Out of a total of 17 Freyer's prostatectomies with 13 recoveries, Loumeau found that six of the patients retained the genital functions. In seven others, these functions had ceased to exist before the operation. In one patient there was a nocturnal erection ten days after the operation. Keyser has recently recorded Kümmel's statistics: Out of a total of 101 patients (10 Bottini, 11 perineal and 80 suprapubic) 52 were followed for a sufficient length of time and of these only three complained of absence of ejaculation, but they had retained the *potentia coeundi*.

I now will record a series of cases, small in number it is true, but which are precise in detail, some taken from the literature and twelve personal.

Three cases of *Hartman and Lecène (Boulonnier, Paris Thesis, 1905)*:

1. Patient 70 years old. Operated May 15, 1905. In Oct., 1905, had had erections since operation, which he had never utilized.

2. Patient 66 years. Operated May 29, 1905. Seen July 20. Had erections before operation, but since has had only one nocturnal erection, which was not satisfied.

3. Patient 67 years. Operated May 31, 1906. The patient has had satisfactory erections since the operation.

*Castano of Buenos Aires (1906)*, two cases:

1. Preservation of erection. No details.



2. Patient 59 years, has had satisfactory erections since the operation.

*Parcelier* (Thèse, Bordeaux, 1908), three cases:

1. Patient 68 years, operated by Pousson, Nov. 5, 1907. See in May, 1908. There is no difficulty in erection or genital functions and ejaculation is normal since operation.

2. Patient 75 years, operated Oct. 14, 1905, by Pousson. Seen Dec. 28, 1908. Before operation had erections which still exist. No sexual intercourse either before or after operation.

3. Patient 66 years, operated Dec. 19, 1905. Seen Jan. 13, 1908. Indulged in normal coitus during the year following operation.

*Le Fur* (Congrès d'urologie, 1908). Patient, 45 years. Genital functions preserved.

*Verhoogen*. (1908). Patient less than fifty years of age. Suprapubic prostatectomy. Shortly after operation he recovered his genital functions, which are now better than before operation.

*Freudenberg*. Three cases. This surgeon records three suprapubic prostatectomies, all the patients being seen some time after the operation. Rectal examination revealed a prostatic projection quite as marked as before the operation. After prostatic massage all the elements of the prostatic liquid were found in the urine. Freudenberg believes that in these cases there was a regeneration of the gland. The three patients had preserved their *potentia coeundi*, in spite of the fact that in two bilateral vasectomy (with ligature) had been done before the suprapubic operation, and in the third vasectomy on one side, and orchidectomy on the other side for testicular atrophy had been done.

*Luis*. Two cases:

1. Patient 65 years, suprapubic operation April, 1905. Seen in 1908. Regular sexual connections once a week.

2. Patient 67 years. Operation Nov., 1908. Fifteen days after his exit from hospital, had a normal ejaculation.

It is not always easy to obtain satisfactory information on this subject, but I am able to report fourteen cases from the service of Prof. Legueu, to whom I am indebted for the privilege of reporting them.

Case I: V. 56 years, operated Jan., 1905. Seen in July, 1906. Before operation genital functions were normal. Erections returned shortly afterwards. At present has erections, but

no ejaculation. He can accomplish coitus, although the pleasurable sensation is very diminished.

Case II. V. 64 years. Operated Oct., 1905. Seen in July, 1906. No erection since operation; no sexual desire; no seminal loss. Total suppression of the sexual functions.

Case III. M. J. 66 years. Operated in Nov., 1906. In 1911 the patient wrote: Since operation urine is clear; micturates once in the night. Before operation patient indulged in coitus quite regularly. Since operation he has only had sexual intercourse from time to time. The erections can be satisfied; coitus normal with pleasurable sensation. No external ejaculation.

Case IV. M. U. 62 years. Operated in 1906. Wrote in April, 1911. Since operation urine is clear; urinates once in the night. Before operation patient had regular sexual intercourse, and this has continued since operation with the same intensity. Ejaculation by meatus. Briefly, no change in sexual functions.

Case V. X. 55 years. Operated in 1906 at the age of 51 years. Seen in 1910. Left testicle increased in size; slight orchiepididymitis. Before operation the patient had normal erections and ejaculation. Since operation the erections are far less frequent. There is no ejaculation and he states that he has no sensation of ejaculating into the bladder and that there is no sperm in the urine.

Case VI. R. Operated Jan., 1908. Seen in May, 1911. Before operation patient still had sexual intercourse. Since, there has been complete loss of sexual power. Some weak erections but no ejaculation. No sexual desire. The patient is, however, satisfied as he no longer has to use the catheter.

Case VII. M. R. Operated April, 1909. Seen May, 1911. Patient urinates normally, urine clear. Deposit in urine about 1/10. Erections preserved. No external ejaculation. The patient tried coitus upon one occasion only, without ejaculation and only slight sensation.

Case VIII. H. 63 years. Operated May, 1911. Seen in 1913. Urine perfectly clear, never uses the catheter. From the sexual standpoint the patient is very satisfied. After operation he had one month of erections without ejaculation, but since then the functions are perfectly normal. He has coitus two or three times weekly with complete erection and ejaculation and pleasurable sensation.

Case IX. H. 58 years. Operated early in 1910. Prostate

moderately enlarged. During stay in hospital had two violent erections with erotic dreams. With the first he awoke without ejaculation; with the second there was abundant ejaculation. Since then he has had quite frequent sexual desire, but has not indulged in coitus. The erections are frequent and vigorous. Before operation he was much reduced sexually, indulging in coitus every eight or ten days without vigor.

While at the Necker Hospital we had the opportunity of questioning the following five cases who had previously undergone suprapubic prostatectomy.

Case X. X. 71 years. Operated in the early part of 1907. Seen in April, 1910. Does not urinate at night. Urine clear. Normal coitus before operation. Afterwards has had coitus "with his wife as before." External ejaculation.

Case XI. N. 70 years. Operated in Dec., 1906. Seen in May, 1910. Micturates three times in the night. Urine clear. Could copulate before operation. Since, erection is the same and he can indulge in coitus, but there is no external ejaculation.

Case XII. E. 69 years. Operation in 1907. Seen in April, 1910. Micturates three times in the night. Urine clear. Erection preserved and can indulge in coitus. Ejaculation from meatus.

Case XIII. P. 65 years. Operated in 1907. Seen in June, 1910. Micturates once in the night. Urine clear. Erection quite as complete as before the operation and coitus can be indulged in. He says that the sperm ejaculated is more fluid than formerly.

Case XIV. S. 68 years. Operated in 1907. Seen in May, 1913. Micturates twice in the night. Urine clear. Impossible to indulge in coitus some time before the operation. Since operation the patient has had erections and can indulge in coitus. Ejaculation normal.

If we examine these fourteen cases of suprapubic prostatectomy, it will be noted that erection is absent only in a single instance and very diminished in one other. The erection is normal and the sexual act is accomplished in the other cases, but there is not external ejaculation in all, this being present in seven patients.

In the genital functions, one must distinguish: 1. The sexual appetite; 2. The erection; 3. The ejaculation; 4. The orgasm.

In the normal state the succession takes place in the order enumerated. Suppression of the sexual appetite does not appear to have ever occurred excepting in very old or weak subjects.

Erection seems to be preserved in the great majority of cases and it is hard to explain how it can be done away with, because the centripetal and centrifugal nerve supply are not interfered with, and of course the reflex centre remains intact.

The suppression of the ejaculation can more readily be accounted for. It is well known that in a goodly number of cases the vasa deferentia are likely to be torn away; the result is that the opening in the prostatic cavity is narrowed, deformed and may even be almost occluded. A true retention in the spermatic tract has been noted (Allen). It is more probable that in many patients the ejaculation when not external, takes place into the bladder and this must be true especially in cases where there has been a rupture of the vasa, whose openings are then in the midst of the prostatic cavity, which forms part of the bladder, while external ejaculation should coincide with preservation of the verumontanum. Orgasm is ordinarily maintained, a fact which leads us to believe that ejaculation takes place within the bladder.

Briefly stated, the results of suprapubic prostatectomy are rather favorable from the sexual standpoint, since in fourteen personal cases we have found that erection took place in thirteen, while external ejaculation ceased in five patients, in other words in 30 per cent of the cases.

Quite different are the results in perineal prostatectomy from the viewpoint of the sexual functions. In his very important thesis (Paris, 1908) on the sexual functions after prostatectomy, Papin records 52 case-reports of the perineal operation in patients who had practically retained these functions before the operation. Of these 52 patients, 51 had totally lost ejaculation and as to erection, it was only present in twelve patients, in other words, in 23 per cent of the cases. These figures speak for themselves.

## A CASE OF SARCOMA OF THE PROSTATE, WITH REMARKS.

BY MARCEL DESCUNS, M. D., Toulouse, France.

**S**ARCOMA of the prostate is generally met with in early life and out of a total of forty-one authentic cases, twenty-nine occurred in subjects less than thirty years of age, and among these seventeen were less than ten years old. After childhood, old age gives the largest number, eight cases being over fifty years of age. Its frequency is difficult to appreciate because malignant growths of the prostate were for a long time overlooked and the proportion of 4.18% given by Heilmann in relation to the total number of cancer growths in man, is certainly too low. Sarcoma of the prostate is far less frequent than cancer. The relationship between these two malignant growths varies according to writers; for Engelbach it is 14%, 29.8% according to Wolff, 26.9% for Socin and Burckardt, 1/10% for Hallopeau and from 10 to 15% for von Frisch.

This relationship also varies with the age of the patient. Sarcoma is the only malignant growth of the prostate met with in childhood. The prostate may be secondarily involved by sarcomatous tissue, but this is exceptional. In the recorded cases the primary lesion was a sarcoma of the seminal vesicles (Zahn), a fibrosarcoma of the right elbow (Reboul), a large cell sarcoma of the corpus cavernosus (Bardeleben), a sarcoma of the testicle (Cabot).

Then there are instances in which the sarcoma developed in the prostate and also in the bladder (Chiari, Dittrich) or rectum (Orth), so that it is a difficult matter to locate the exact starting point of the growth.

In young people, and by this I mean children and adolescents, the commencement of the disease is usually overlooked. It is only after a certain time that the tumor, by increasing in size, compresses the neighboring organs. Urinary disturbances are generally the first to show themselves. Suddenly the patient is seized by an attack of complete retention, and this is often preceded by phenomena of dysuria and incomplete retention. Menocal observed in his case a retention every morning, which disappeared during the day. If the patient is not catheterized regularly he ends by urinating by overflow. If the catheter is passed regularly, micturition may become normal again for a certain time. The passage of the catheter may present great difficulty, because the



urethra is generally elongated, deviated and compressed at certain points.

Compression of the rectum results in disturbances in defecation. At the beginning, it is constipation which is the most frequent but later diarrhea and incontinence arise.

At the beginning, the tumor develops without giving rise to pain, but usually pain succeeds upon disturbances of micturition and defecation.

If the patient be examined at this time a rather large abdominal prominence will be noted, perhaps extending up to the umbilicus, and which does not completely disappear after the bladder has been emptied by the catheter. The perineum is bulging in the preanal portion. There may be a generalized edema (Socin) or one localized to the scrotum and perineum (Van der Hoeven) or over the thigh and left knee (Edington).

By palpation the tumor gives rise to a more or less distinct sensation of fluctuation, to such a degree that some surgeons, thinking that they were dealing with an abscess, have made an incision through which the neoplastic tissue rapidly developed. The finger introduced in the rectum feels a rather hard mass in the prostatic region, which may also occupy the entire pelvic cavity. The rectum may be ulcerated and, in this case, the finger may withdraw fragments of the growth.

Quite often one perceives in the groins and sometimes in the iliac fossae, an enlargement of the lymph-nodes. At this stage of the process, the patient may present a very satisfactory condition of the general health. The temperature and pulse are normal.

But as soon as the urinary disturbances appear, the evolution of the disease goes on very rapidly, because, along with the development of the growth, infectious manifestations become added. The bladder is the first to become infected. The urine becomes cloudy, while micturition is painful and frequent. The hypogastric region becomes painful, and the infection extends to the ureters and kidneys which frequently present at autopsy lesions of pyelonephritis.

The tumor grows rapidly, sending out prolongations into the bladder, which may obstruct the urethra and even the ureters (Edington). The general health rapidly declines and towards the end of the process the temperature rises and the patient dies usually within the year of the appearance of the urinary disturbances.

In elderly people the symptoms are much less marked. The increase in the size of the tumor is far less considerable; the abdomen is only slightly distended and the urinary disturbances are less pronounced, recalling those presented in prostatic hypertrophy. It is exceptional to observe at the beginning an attack of complete retention of urine as in the child. The passage of the catheter is easier. The tumor projects into the rectum, compresses it, resulting in obstinate constipation with flattened feces (Socin) and even symptoms of occlusion, which decided Marsh to perform colostomy on his patient.

This slow evolution of prostatic sarcoma in the adult and elderly subjects has permitted the removal of the neoplasm in some cases, thus prolonging the patient's life. It also explains why some surgeons, like Paschkiss for example, have found metastatic foci under the skin of the forehead, in the axillae and scrotum.

The following case will illustrate the clinical picture most frequently observed during the progress of this process.

A boy, fourteen years old, who had been well up to June last, noticed at this time that micturition became more frequent. This symptom continued and even increased in severity until one day after a long bicycle ride the patient could not urinate. This was Aug. 15, and a physician who was summoned had considerable difficulty in passing a soft catheter. On the days following this operation had to be renewed. Up to this time the urine had been clear and an analysis done on several occasions had always been negative.

But after this series of catheterizations performed by the mother of the little patient, the urine became cloudy and purulent. There was an elevation of the temperature from time to time and the patient lost flesh, appetite and sleep.

In September, a surgeon was consulted and found above the pubis in the region of the bladder, a soft painless mass and suspected a neoplasm of the bladder.

We first saw the child in the early part of October. He was pale, thin and walked with considerable difficulty. When the patient was lying on his back and the abdomen freely exposed to view, one could feel by palpation a tumor which occupied the hypogastric region up to the umbilicus. It gave the impression of a distended bladder. A catheter was passed and 600 grammes of distinctly purulent urine was withdrawn. The hypogastric tumor was found to have subsided to a certain extent, but had not com-

pletely disappeared. It now reached the middle of the pubic-umbilical space and was particularly perceptible on the left side where it seemed to encroach upon the iliac fossa. It appeared to be quite hard, regular in outline with a smooth surface, and painless.

Rectal examination showed that the tumor filled the small pelvis completely and extended almost to the perineum without, however, causing any bulging of the latter. It pushed the rectum backwards and extended laterally to the walls of the small pelvis. It was immovable, regularly rounded, pushing back the anterior rectal wall, of uniform consistency, renitent and painless. Combined abdominal and rectal palpation showed that it was a single growth involving at the same time the abdomen and perineum.

There was no blood in the urine, and I will say that during the entire progress of the disease there was never the slightest trace of hematuria. The kidneys were not increased in size, as neither could be felt by palpation.

All the other viscera, after careful examination, were devoid of any pathologic symptom. The lungs, heart and digestive organs were normal; the liver and spleen were not hypertrophied. There was obstinate constipation, which was easily accounted for by the rectal compression, but the stools retained their normal shape and at no time contained blood.

The lymph-nodes of the inguinal region and other regions were not enlarged. Both testicles were in the scrotum and normal in size.

In presence of these symptoms characterized by the rapid evolution of a tumor in the small pelvis, a tumor which pushed the bladder forwards compressing the urethra, and the rectum behind; a regular, indolent and renitent growth, we at once thought of an hydatid cyst of the small pelvis. Certainly, the patient being questioned from this point of view, presented no secondary signs, such as distaste for fatty food, urticaria, etc. Also without doubt, in examining the tumor, we could not obtain the hydatid thrill, but these negative findings were not enough to cause us to reject this diagnosis. To confirm our hypothesis we should have resorted to the serodiagnosis of the echinococcosis, but the family were anxious that there should be no delay and the very poor general state of the patient required urgent treatment.

On Oct. 6, a laparotomy was done and the upper pole of the tumor was revealed. The surface of the growth appeared fibrous, regular and hard and believing that our diagnosis was correct a trocar was thrust into the growth, but as no fluid came away the instrument was withdrawn and another puncture was made at another spot in the tumor with the same result. The diagnosis being evidently wrong, it then appeared that the tumor had developed either from the walls of the small pelvis or the prostate.

In order to confirm this diagnosis, the capsule of the tumor was incised and through the incision we could see a yellowish tissue, distinctly lipomatous which, with the finger, could be easily detached from its capsule. The incision was enlarged and enucleation proceeded with. This was easy, particularly on the lateral walls, but more difficult at the bottom of Douglas' cul-de-sac and especially so in the infra-vesical region. Here the growth was very adherent, presented a lardaceous aspect, and tore upon the slightest traction. The starting point was evidently from the prostate, which had lost its normal shape. The hemorrhage was not very marked. On the lateral walls of the small pelvis the ureters could be seen, which were slightly dilated and could be traced down to the bladder. They were intact, likewise the rectum. At the level of the prostate some tumor tissue remained, which was quite completely removed with scissors.

A large drain was introduced and the cavity plugged with gauze. The operation was rapidly finished, having lasted forty minutes.

During the day an injection of 200 grammes of salt solution was given. The evening temperature was 37.2 C., the pulse ninety. The patient also had a spontaneous micturition.

The following day the condition was good, the temperature being normal and the pulse 100. The aspiration through the drainage tube, done morning and evening, withdrew a small amount of rose-colored liquid. On the third day, after an enema, several alvine evacuations were obtained. The gauze packing was mobilized, the patient felt better, micturated without aid and asked to be fed.

But during the night of the fourth day the pulse suddenly became weak, vomiting occurred, but the abdomen was not distended nor painful. There was no hemorrhage because nothing came away by the drain. Injections of salt solution, caffeine

and camphorated oil were administered without success and the child died a few hours later.

A microscopical examination of the tumor by Prof. Rispal showed that the tumor was a large round cell myxosarcoma.

From a careful study of the subject, I can offer the following conclusions:

1. Sarcoma of the prostate is an infrequent disease and usually occurs in young people.

2. It makes itself manifest by urinary disturbances, more frequently by an attack of retention of urine and by disturbances in defecation due to compression of the rectum. Rectal examination allows one to locate the seat of the growth. The general health deteriorates rapidly. In adults the evolution is less rapid.

3. The prostate presents an hypertrophy and varies in consistency. The lymph-nodes are usually intact. Microscopically there are sarcomata composed of a single tissue (round cells or fusiform cells, polymorphous cells and lymphosarcoma) and less frequently sarcomata composed by multiple tissues (myxosarcoma, angiosarcoma, chondrosarcoma, adenosarcoma, myosarcoma, fibrosarcoma and malignant rhabdo-myoma).

4. One should not mistake prostatic sarcoma for sarcoma of the bladder, hydatid cyst of the small pelvis, abscess of the perineum and above all for hypertrophy or cancer of the prostate.

5. In children a purely symptomatic treatment should be resorted to. In the adult, if the diagnosis has been made early in the process, prostatectomy should be attempted.

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## CROWN CHANCRE OF THE PREPUTIAL MARGIN

BY E. GAUCHER, L. BIZARD, and J. BRALEZ.

Chancres of the prepuce form about one-half of all chancres of the region of the genitals. Such lesions may assume very peculiar shapes, and have acquired such descriptive names as "shutter chancres," "hinge chancres," etc. In this communication the authors describe what they designate as "crown chancres of the preputial margin with phimosis." Of 180 patients with primary lesions seen during the space of six months, seven presented this type of sore. That is, its frequency is about 1 to 25 of all chancres.



This chancre occurs in four forms: The most frequent variety is that in which the chancre occupies the entire circumference of the free border of the prepuce. It is situated entirely on the cutaneous surface and does not involve the mucosa. The ulceration resembles that of an ordinary chancre in every respect except that it is more irritated because of the constant pulling and other trauma to which the prepuce is subject. The entire lesion has the appearance of a firm disc or ring enclosing the glans in a tight phimosis. Palpation at the base of the prepuce does not reveal the slightest trace of induration. There is bilateral adenopathy more marked on one side.

In the second variety the crown of the chancre is divided by a number of fissures, but the chief characteristics remain the same. In this type the lesion assumes the appearance of a collarette.

The third form, instead of occupying the entire circumference of the prepuce takes up but a part in the shape of a crescent. But here the induration extends beyond the apparent lesion so that while the chancre occupies but a part, the induration extends completely around the prepuce in the form of a sclerotic subcutaneous ring.

In the fourth variety the crown is interrupted by intervals of healthy, non-ulcerated skin. Thus the "crown chancre" becomes a crown of chancres. This distinction however is more superficial than real for the indurated nodules form a subcutaneous crown of induration.

The subcutaneous induration in every form is always accompanied by a more or less tight phimosis. This phimosis is entirely different from that caused by the ordinary infiltration associated with chancres of the balano-preputial groove where the prepuce is merely "puffed up" from inflammatory swelling.

In the lesion under discussion, the phimosis is due to an induration which causes the free end of the prepuce to become rigid, non-elastic, and of a woody consistence. The characteristics of this phimosis vary with the dimensions of the prepuce. In general crown chancres occur in men with long prepuces. In such cases the foreskin has the appearance of a cap, closed in front of the urinary meatus as if drawn by the strings of a purse. It may resemble an inextensible shell which it is absolutely impossible to draw back and which has every opportunity to become infected in case of a coexisting blenorragia.

When the prepuce is not so very long, the phimotic ring encircles the glans at a variable height and exposes its end without being sufficiently distensible to be drawn back. Every attempt at reduction is painful and causes new fissures.

Furthermore, whereas the preputial infiltration which accompanies balano-preputial chancres resolves completely, leaving a supple prepuce, the cicatrization of the crown chancre of the preputial margin leaves a fibrous ring of greater or lesser thickness which may constitute a formidable obstacle to the retraction of the prepuce.

The only radical treatment is circumcision. Local treatment consists in cleanliness, dry dressings and applications of calomel ointment. As regards general treatment, the authors recommend 2 grams of potassium iodid daily (in addition to mercury) to combat the sclerotic infiltration.

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## INTESTINAL SYPHILIS

BY FERNAND SUAREZ DE MENDOZA.

The author first takes up hereditary intestinal syphilis. The walls of the gut are infiltrated with embryonal tissue and as a result there is rigidity and tumefaction of the mucosa. Obliterating endarteritis is always present which gives rise to partial necroses resulting in small gummata or follicular ulcerations. Clinically two symptoms are prominent; melena, and diarrhea. The diagnosis is easy when other symptoms of congenital syphilis are present. Otherwise it is difficult. The prognosis is grave.

As far as acquired syphilis is concerned, any part of the intestine from the pylorus to the anus may be involved. Just as with tuberculous, neoplastic, or inflammatory tumors, the sites of predilection are the ileo-cecal region, the colic angles, and the rectum. The initial lesion, no matter where located, is always the same, viz.: Submucous lymphoid infiltration, obliterating endarteritis. Diffuse syphilomata are the rule, gummata are rare. As a result of the arteritis there is necrosis of the mucosa involving Peyer's patches. The resulting ulceration presents a gray, worm-eaten base, and hard and thick walls.

On top of this ulceration secondary infection may occur with

the development of amyloid degeneration or tuberculosis. In other cases the embryonal infiltration tends to sclerosis with the development not of ulcerations but of strictures.

As regards the question of an intestinal enanthem during the secondary stage, corresponding to the exanthem of skin and mucosa, the author quotes Gaucher as authority for believing that this does not occur since the intestine belongs to the entodermal tissues which are affected only in visceral (tertiary) involvement. Clinically, however, secondary syphilis affects the intestinal tract as follows: colic, diarrhea, vomiting, occasionally fever with the development of a state which has been called typho-syphilosis.

In the tertiary stage there may be described: 1. The diarrheal form corresponding to ileo-cecal and colic ulcerations with occasional intestinal tumor. The diarrhea is chronic and is associated with cachexia. 2. The dysenteric form with rectal tenesmus, mucous and bloody stools. Indolent ulcers exist at the anal margin and are prolonged into the rectum. 3. Finally there is the stenosing form. This is rare in the small intestine and colon, but is especially frequent in the rectum. Strictures give rise to a syndrome of rectal stenosis associated with chronic proctitis due to secondary ulcerations.

In 1904 Gaucher pointed out the relation between syphilis and some forms of appendicitis. Since syphilis is the disease par excellence of the lymphoid apparatus it is not so surprising to find it at the bottom of appendical involvements. In this way are explained those cases of familial appendicitis which were formerly attributed to grippe, the Wassermann being positive in many such instances.

The differential diagnosis of intestinal syphilis is summed up in the expression: "Think of syphilis." So long as the new formed tissue is young, treatment will have its effect; when fibrous tissue is already deposited, it will be of no value. That is why ulcerative forms are more favorable for treatment than stenosing forms. Strictures are never cured with mercury.

## THE TREATMENT OF PRURITUS VULVAE\*

**T**HIS is a very distressing affection which is apt to bring on grave nervous disturbances, leading, it may be, to mental depression and melancholia, culminating possibly in suicide. Vulvar pruritus, which is often styled ano-vulvar pruritus—is in most instances very difficult to cure. In all special treatises on gynecology it is noted that the affection is one which often defies the resources of our art. But we must not jump to the conclusion after one or two failures that its treatment is really hopeless and that nothing can be done. The chapter on the treatment of this pruritus is, as a matter of fact, one of the most richly provided in the domain of therapeutics, indeed the very multiplicity of the means at our disposal renders a selection difficult, the more so seeing that etiological considerations rarely come into play. We must therefore “sound the depths”. We shall often be surprised, after vain endeavors with the drugs in general use, to find that success attends the use of very commonplace means. It is therefore indispensable to have before us a fairly complete list of the methods of treatment that have been recommended. In this way we shall be in a position when the time comes to make our choice.

Without running through the nosological history of vulvar pruritus it is indispensable to briefly recall its symptomatology, and pathological anatomy and especially its etiology. Many of the views contained in these chapters will enable us to favorably direct the treatment.

The principal characteristic of vulvar pruritus is its irregularity. In some women it is constant, supervening at any hour of day and night, leaving the unfortunate victim no rest. In others, on the contrary, there are remissions, often of some duration, often periodical. There are women who are thus troubled only at night, at their periods or at certain hours. In other instances it comes on after fatigue or excitement. Whatever be its constancy or its intermittency the pruritus may affect the whole vulvar region or part only. In such case it is apt to be most marked—and this is frequently the case—in the neighborhood of the clitoris or in the organ itself, the entrance to the vagina or its interior, the perineum, the labia majora, the mons veneris, or the inner surface of the thigh. A very large area of the integument may be involved.

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\* Le Monde Médical.

On inspecting the seat of the lesion nothing abnormal may be seen. The pruritus in recent cases does not reveal its existence by any external sign. Sometimes there is a discharge of some kind, sticky and with difficulty distinguished from that of ordinary leucorrhœa. When of somewhat older standing the region may be covered with a sort of grey floury powder and we begin to get lesions due to scratching. When of long standing the affected zone is infiltrated and thickened or the skin may be reddened, pigmented, non-elastic. But in most instances there are no well-marked physical signs, either macroscopic or microscopic.

The consequence of this state of things has already been pointed out in part. The itching is intolerable, calling for scratching so that the most retiring and bashful woman is fain to have recourse thereto or else endure unspeakable suffering. But too often, nervous disturbances follow a long period of this disease and this may take the form of permanent erythism of the genital organs, whence onanism and nymphomania.

The etiology of vulvar pruritus is very variable and often remains a mystery. Two classes may be distinguished: one of symptomatic and the other of idiopathic, pruritus. Among the former are those associated with diabetes, the arthritic diathesis in general, pregnancy, vesical calculi, renal, urethral and vesical affections, gonorrhœa, cervical catarrh and cancer, menstruation and the menopause. To tell the truth however this is an association of symptoms that are often met with under other conditions and it would be difficult to establish any direct lien between the two sets of data or to show how one reacted on the other. Cases of idiopathic pruritus are those which do not coexist with any of the above affections or circumstances. The obscurity of the etiology in these cases is absolute and observers have gone so far as to incriminate, without any valid reason, a vague affection of the central nervous system.

It is of course in idiopathic pruritus that our therapeutical resources require to be particularly varied. In cases which are dependent on a well-defined etiology it is obvious that the treatment of the causal malady will dominate the situation. For instance we must never omit to institute a careful analysis of the urine of every woman suffering in this way because there is *prima facie* reason to suspect the existence of diabetes. It is unnecessary to insist on the chapter of etiological therapeutics. Its success, when



confirmed, corroborates the view that is held as to the relationship of cause and effect. When it fails we must fall back upon local treatment and the remainder of this article will be devoted to this local treatment which must never be neglected.

To begin with, there is one simple method of treatment which must always be tried, one which in the majority of instances, may advantageously be associated with most of the other methods of treatment *viz* baths, either general or in the form of sitzbaths, starch, tepid or cold.

Then come general narcotics and sedatives such as opium, chloral, veronal, etc., which however are to be employed cautiously otherwise tolerance will be set up, then too they are only a superficial remedy. The same remark applies to potassium bromide which often yields excellent results, especially in neuropathic subjects. Indian hemp belongs to the same class but is more difficult to handle.

We now come to ordinary ointments rendered active by the addition of cocaine, menthol, and belladonna. Or cocaine may be applied in the form of a solution, of a strength as high as ten-per-cent, painted on with a brush. Chloroform also has its advocates as a topical application:

Chloroform .....	30 parts
Ol Amygd. dulc. ....	3 "

Antiseptics have often been employed with benefit as for instance a solution of carbolic acid, 3 to 5 per cent, applied with a brush but this is not altogether free from risk especially if the strength be increased.

Carbolic acid is also used in the form of ointments:

Carbolic acid .....	0 gr. 05
Vaseline .....	10 gr.
Lead ointment .....	10 gr.
Olive oil .....	5 gr.
Essence of Lavender .....	<i>m xx</i>

or (LUTAUD).

Carbolic acid .....	4 grammes
Morphine sulphate .....	0 gr. 06
Boric acid .....	8 gr.
Vaseline .....	60 gr.

Bichloride of mercury is another remedy, to be applied as follows:

Bichloride of mercury .....	0 gr. 25
Chloride of ammonium .....	0 gr. 25
Almond milk .....	500 gr.

The bichloride especially has good results to its credit. It is used as a lotion, 1 to 1000. Other authorities recommend the application of water as hot as can be borne, followed by the application of the 1 in 1000 bichloride solution.

Chloral has been employed by certain gynæcologists:

Chloral hydrate .....	5 grammes
Rose water .....	100 gr.
Distilled water .....	150 gr.

of course for local application.

Goulard water has similarly been employed, also vinegar, one part in three of water, applied at the temperature of the skin, sprays of menthol:

Pure crystallized menthol ...	10 grammes
Spirit of camphor .....	)
Chloroform .....	)ââ 30 gr.
Sulphuric ether .....	)

or as an ointment:

Menthol .....	0 gr. 50
Guaiacol .....	0 gr. 10 to 0 gr. 30
Oxide of zinc .....	10 gr.
Vaseline .....	30 gr.

DR. DALCHE who devised this formula, also recommends the balsamic tincture of the French CODEX, or dabbing with tincture of aloes and dusting with this powder:

Orthoform powder .....	)
Iodoform .....	) ââ
French chalk .....	)

According to this same observer good results have sometimes followed the use of a 1 in 10 ichthyol ointment.

After using the various lotions, dust with a powder containing 1 in 100 of camphor.

German authors recommend dressings with powder, especially powdered alum or a mixture of alum and sugar, applied on cotton plugs maintained in contact with the affected parts.

Among active local applications is nitrate of silver which has been recommended by a certain number of observers. In the worst class of cases surgical aid may be invoked, the pruriginous areas being excised, skin and mucous membrane.

But physiotherapy has also been brought to bear to supplement old time therapeutics which still fails to relieve in a certain proportion of the cases. Treatment by physical agents comprises hydrotherapy, electricity, radiotherapy and phototherapy. Hydrotherapy succeeds best in neuropathic subjects especially if applied judiciously and gently. Dalche advises prolonged douches at a moderate temperature. Beni-Barde recommends a coarse spray at a temperature of 38 or 39 degrees.

Electricity, according to GAUCHER, should be utilized in the form of the constant current, the positive pole being placed on the pubes and the negative pole to the various pruriginous points. High frequency currents as well as the Faradic current have also been used to the vulvar region.

Radiotherapy has been employed, principally by DELHERM and LAQUERRIÈRE. In one obstinate case the success was well marked and the fact is the more remarkable seeing that the patient had undergone many other methods of treatment including the application of electricity. She had been suffering from obstinate vulvar pruritus for the last three years. The X ray bulb was placed at a distance of about 30 cm. from the painful region and the sittings, one minute at first, were subsequently extended to four minutes. There was attenuation of the symptoms after the very first sitting and after the sixth, recovery was complete. There has been no relapse since. Although radiotherapy cannot lay claim to any great experience in this department this case is most encouraging.

Blue light is of still more recent introduction into therapeutics and its employment is singular in that it is paradoxal. This form of phototherapy, applied in lupus for instance, often sets up itching. Nevertheless DR. ROTHSCHEIM, of Aix-la-Chapelle, succeeded in curing by these means in a short space of time an extremely refractory case of pruritus of the vulva. The blue light is produced by an electric projector of 15 ampères provided with

a blue glass and placed two yards from the patient, the focus of the reflector being ten inches from the region to be treated. A few sittings of a quarter of an hour each sufficed to secure a positive result in that sleep was restored after a long period of insomnia. The sittings were repeated every other day and after the twelfth everything had apparently settled down.

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## MISCELLANEOUS ABSTRACTS

### NEPHROPEXY.

Marion (*Journal d'Urologic*) feels that the operation of nephropexy does not deserve the discredit into which it has fallen. He describes his special technic (modified Albarran) and points out the value of doing a simultaneous appendectomy.

The author has operated in 53 cases with no deaths. Twenty-six of these were traced and formed the basis of the present study. Only one case was made worse. Pains were always relieved, especially in those cases where an appendectomy was done. Digestive disturbances were completely cured in only 6 of 16 patients presenting these symptoms and were partially improved in six others. Similarly, only 4 cases with nervous complaints were cured and 4 others improved. On the other hand, the general condition was improved in many cases.

As regards indications, it is clear that a loose kidney that causes no symptoms requires no fixation, no matter how great its mobility. On the other hand, movable kidneys with complications, such as hydronephrosis, hematuria, strangulation, etc., require fixation no matter whether they are tender on pressure or not. This leaves for consideration the ordinary forms of movable kidney which have been classed as the painful, the nervous, and the dyspeptic. In the purely painful cases nephropexy is always justifiable, as it is usually in cases of pain associated with nervous and gastrointestinal symptoms. On the other hand, patients with vague pains, with general ptosis, with "neurasthenia," should always first be given a thorough medical and tonic treatment, including prolonged rest in bed and the wearing of an abdominal binder.

After-treatment is of great importance in nephropexy cases. Not only should the patient be confined to bed for three weeks as a minimum, but he should be given the same general, dietetic and supportive treatment as indicated above in the neurasthenic.

## PRIAPISM FOLLOWING INJURY TO THE PERINEUM.

J. Oraison (*Gazette Hebdom. des Sciences Med. de Bordeaux*).—A man, aged 58, fell from the height of a metre astride the edge of an open barrel. He felt a sharp pain in the perineum at the time of the accident, and for 2 or 3 days presented slight pain on micturition unaccompanied by hemorrhage or retention of urine. A superficial ecchymosis appeared in the perineum which extended to the scrotum and penis but rapidly disappeared. About 3 weeks after the accident he began to suffer from pain at the portion of the perineum which had been injured, and, at the same time the penis assumed a state of semi-erection which was slightly painful. The pain in the perineum and penis rendered the sitting position uncomfortable.

When examined 6 days after the onset of the priapism there was no swelling or discoloration of the perineum, scrotum, or penis, which continued in a state of semi-erection. The urethra and corpora cavernosa appeared normal on palpation, but pressure on the former 3 cm. in front of the anus caused considerable pain. Micturition was unimpeded and painless. The passage of a large olivary bougie revealed several easily overcome strictures in the anterior urethra and was followed by slight hemorrhage. After the passage of the instrument the spontaneous pain in the perineum ceased and firm pressure on the urethra failed to elicit tenderness. The priapism remained unaltered.

There was evidently no rupture of the urethra or corpora cavernosa, but possibly the bruising of the latter may have been followed by late thrombosis. Leeches to the perineum and wet applications to the penis were ordered, but the writer considered incision of the corpora cavernosa would be indicated if these measures failed to relieve the condition within 3 days.

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#### SYPHILIS OF THE INNER EAR.

A. W. M. Ellis and H. F. Swift, New York (*J. A. M. A.*) remark that the relative frequency of syphilis of the inner ear, especially early in the syphilitic infection, has been the subject of much discussion and there has been a wide diversity of opinion in regard to it. After noticing some of the statistics collected by different authors, they say that the question is intimately associated with that of the so-called nerve relapses, occurring after



insufficient treatment with salvarsan, and it seems to be indisputable that under such circumstances the severity of such affections of the cranial nerves is markedly increased. Gennerich considers that this increased severity after insufficient use of salvarsan is due to the absence of resistance to local expansion of the syphilitic process which usually develops in syphilitic subjects coincident with the appearance of the secondary eruption. He attributes this to the rapid elimination of the mass of the infecting organisms. After insufficient treatment, a few will, however, remain in some foci difficult to reach with the curative agent, and such frequently exist in the central nervous system. The development of the remaining organisms occurs as an intense local infiltrating lesion, like a primary lesion in its development, and if a patient has no further treatment, may result in a fresh general infection. This explanation they consider satisfactory for the phenomena observed. The question as to what exact portion of the auditory mechanism is affected in syphilis has been much discussed, and the authors seem to favor the view that the nerve stem is involved in a basal meningitis. During the past four years, they say, they have seen seven such cases of syphilis of the meninges, involving the eighth nerve, and these they report as illustrating the relation of the disturbances of the hearing to syphilitic infection of the central nervous system. Six of them showed definite evidence of extensive nervous infection, which was less marked in the seventh case. They had all been insufficiently treated, and it has been shown conclusively, they say, that it is only in such cases that these lesions arise; and the number of such cases occurring in any clinic is an index of the evidence of the efficiency of the treatment of syphilis in that clinic. They demonstrate the large amount of treatment which may be necessary, and the need of repeated examinations of the spinal fluid. The authors therefore emphasize the importance of the consideration of all lesions of the eighth nerve as the possible manifestation of a serious form of general infection and the need of an examination of the spinal fluid in every case of this type, with repeated examinations for the intelligent treatment of such cases.

## CASE OF THIRD GENERATION SYPHILIS.

Cases of third generation syphilis are not very frequent, and therefore every case reported in the literature deserves notice. Dr. D. J. Glomset (*J. A. M. A.*, Vol. 65, No. 8), reports the following case:

"A young, recently married couple brought their first-born to their family physician. The baby had a condition in the palms of his hands and the soles of his feet which the doctor diagnosed as syphilis. This diagnosis greatly angered the parents, who both denied exposures. The infant was taken to another physician who concurred in the diagnosis and had a Wassermann made on the baby. It was positive and the baby died in spite of treatment. The greatly alarmed parents then came to me for examination of their blood. To my astonishment, the father's blood gave negative Wassermans repeatedly but the mother's blood was positive. In order to clear herself, the vexed mother brought her older sister and her younger brother to me for examination. The blood of both of these inhibited hemolysis. The children then dragged their irate German father to my office, and he brusly informed me that if I found syphilis in his blood he would kill me. The man's blood was negative. Shortly afterward the child's grandmother died from what was diagnosed gumma of the brain. Less than twenty minutes after death, a sample of her blood was obtained and that, too, was positive. The grandmother was an illegitimate child.

The positive members of the family were given two injections of salvarsan and kept under mercurial treatment for three months. Then I examined the blood of all of them; they were still positive. They were given another dose of salvarsan, and mercuric chlorid injections were continued for eighteen months. At the end of that time the blood was examined and all gave negative Wassermann reactions. A year and a half after this I again examined the blood of these persons and obtained a negative Wassermann in every one. In the meantime the mother has given birth to another child who is now over half a year old and shows no evidence of syphilis."

# THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

OCTOBER, 1915.

No. 10.

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Translated for THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## MODERN SEXUAL MORALITY AND MODERN NERVOUSNESS.

BY PROFESSOR SIGMUND FREUD, M.D., LL.D., Vienna.

CAREFUL clinical observations justify us in dividing nervous morbid states into two groups, neuroses proper and psychoneuroses. In the former the disturbances (symptoms) whether they manifest themselves in physical or mental actions, seem to be of a toxic character. Their manifestations are quite similar to those which coincide with either the excessive ingestion of or the absence of certain nerve poisons.

These neuroses, generally designated by the term neurasthenia, can be produced by certain pernicious influences of the sexual life, without any hereditary taint as contributing factor; the aspect of the disease corresponds so closely to the nature of the pernicious element that caused it, that its clinical description often enough enables one to draw retrospective conclusions as to the particular sexual etiology.

On the other hand, we fail to observe such a regular connection between the aspect of the nervous disease and the other pernicious influences of civilization which authors have described as factors of disease. We may therefore consider the sexual factor as the real cause of neuroses proper.

In psychoneuroses, hereditary influences are more potent and actual causes cannot be determined as easily. A special method of investigation, psychoanalysis, has allowed us, however, to ascertain that the symptoms of those troubles (hysteria, compulsion neurosis, etc.) are psychogenous and are traceable to the action of unconscious (repressed) imagination complexes.

Psychoanalysis has enabled us besides to study those uncon-

scious complexes and to ascertain that generally speaking they have a sexual import. They originate in unsatisfied sexual needs and afford a sort of gratification in a different form. We must therefore, consider every factor which is harmful to the sexual life, which suppresses its activities or runs counter to its aims, as a pathogenic cause of psychoneuroses.

The value of the theoretical distinction between toxic and psychogenic neuroses is not diminished in the least by the fact that in the majority of nervous patients we observe disturbances traceable to both kinds of origin.

Those who believe as I do that the etiology of nervousness is to be sought above everything in pernicious influences which are brought to bear upon the sexual life, may be interested in reading the following pages in which I will attempt a comprehensive synthesis of the problem of the increase in nervousness.

Our civilization is entirely based upon the suppression of instincts. Every individual has had to abdicate a part of his property rights and to renounce in a certain measure the exercise of his power, to give up his aggressive and vindictive tendencies. The sum of those individual sacrifices constitutes civilization's common fund of material and mental riches. Not only the necessities but the family feelings derived from eroticism have led the individual to make such sacrifices.

Those sacrifices have been made gradually in the course of the evolution of civilization; every step in that direction was sanctioned by religion; whenever the gratification of an instinct was given up in part, that part was offered to the deity. Whatever advantages redounded to the community from that renunciation were declared holy. Whoever failed to carry out that suppression of his instincts, owing to his unbending disposition, was regarded by the community as a criminal, as an outlaw, unless his social prestige and his superior strength enabled him to impose himself as a great man, as a hero.

The sexual instinct, or accurately speaking, the sexual instincts (for analysis reveals that the sexual instinct consists of many elements, of many partial instincts) is undoubtedly more developed in man than in the majority of the higher animals; at any rate it is more constant in man for it has almost entirely outgrown the periodicity which characterizes it in animals. Owing to its peculiar capacity to change its object without losing any of its intensity it places great amounts of energy at the disposal of

civilization. That faculty to exchange the original sexual object for another object, no longer sexual but psychic in nature, is known as the faculty of sublimation.

In contrast with the versatility of the sexual instinct wherein resides its cultural value, we observe in the sexual instinct also a stubborn fixity which makes it impossible to transvaluate it entirely and leads to what we call abnormalities.

The original intensity of the sexual instinct must vary greatly in each individual; at any rate the proportion of it which lends itself to the process of sublimation is extremely variable.

We may well imagine that the person's organization determines in every individual case what part of the sexual instinct can be sublimated and transvaluated, and the influences of life and the intellectual influence of the psychic apparatus extend somewhat further the process of sublimation.

But the process cannot be carried on *ad infinitum* any more than the mechanical transformation of heat into energy. The majority of human organisms seem to require a certain amount of direct sexual gratification and the lack of that gratification, whose amount varies with every individual, brings forth manifestations which, on account of their functional harmfulness and of their subjective character of unpleasantness, we must consider as pathological.

Broad vistas open up for us when we bear in mind the fact that man's sexual instinct is not at all primarily meant to serve purposes of reproduction but is intended to furnish certain forms of gratification.

This is obvious in childhood when the instinct is gratified not only through the genitals but through many other parts of the body (erogenous zones) and therefore can do without other less convenient objects less easily attained. We call that stage the autoerotic stage and education is entrusted with the task of setting a limit to it, for should the instinct remain in that stage, it could neither be controlled nor transvaluated in later life.

The sexual instinct evolves then from autoerotism to love for a definite object and from the autonomy of the erogenous zones to their subjugation to the primacy of the genitals which are to assure procreation. In the course of that evolution one part of the sexual excitation derived from the individual's own body is checked as unutilizable and when circumstances are favorable submitted to a process of sublimation. Most of the energy that can



be utilized for the tasks of civilization is derived from the suppression of the so-called perverse parts of the sexual excitation.

Bearing in mind this history of the evolution of the sexual instinct we may distinguish three stages: the first stage in which the activity of the sexual instinct extends far beyond the purposes of procreation; the second stage in which that part only of the sexual instinct is not repressed which serves the purpose of procreation; the third stage, finally, in which only *legitimate* procreation is countenanced as the aim of sexual activity. To this last stage corresponds the "civilized" sexual morality of the present day.

If we observe the second stage of civilization as our starting point we notice that a number of individuals are prevented by their own organism from satisfying the requirements of the morality corresponding to this stage.

In an entire series of individuals the above mentioned evolution of the sexual instinct from autoerotism to love for an object and aiming at a union of the genitals has not been regular or complete and there results from those irregularities of development two harmful deviations from normal sexuality, that is from the sexuality demanded by civilization; those two deviations stand to each other in the relation of positive to negative.

Leaving aside the individuals with overdeveloped and uncontrollable sexual instincts, those deviations are responsible for the many varieties of pervers, in whom the fixation in infancy of a provisional sexual aim has prevented the primacy of the procreative function, and on the other hand, the homosexuals or inverts in whom the sexual aim has been, through some as yet unexplained process, deflected from the opposite sex.

If those irregularities of development are not as harmful as one would expect them to be, it is because the complexity of the sexual instinct eases up the process, allowing the sexual life to attain useful ends even when one or more components of the instinct have developed along wrong lines. The constitution of the inverts or homosexuals often appears to be peculiarly adapted to the "civilized" sublimation of the sexual instinct.

The marked and even exclusive development of certain perversions and of homosexuality make the individuals affected by them socially useless and unhappy besides, so that even the cultural demands of the second stage must be recognized as a source of suffering for a certain part of mankind. The fate of the individ-

uals who deviate constitutionally from the average differs according to whether they have a really strong or only a weak sexual instinct.

Perverts with a weak sexual instinct succeed in repressing the propensities which would bring them into conflict with the moral standards of their stage of civilization. But properly speaking this is about the only accomplishment of which they are capable, for the repression of their sexual instincts uses up the energy which they could otherwise have turned to good use in "cultural" pursuits. They are inwardly self-repressed and outwardly paralyzed. We may apply to them what we will have to say of the men and women who practice abstinence in obedience to the demands of the *third* stage of civilization.

When the sexual instinct is more intense but perverted there are two possible outcomes: the first, which we do not intend to consider in this article is that the perverts remain perverts and have to bear the consequences of their deviation from the cultural standard. The second eventuality, by far the more interesting of the two, is that under the influences of education and the pressure of social demands, the perverted instincts are repressed; their repression, however, could be more accurately characterized as failure to repress them. The checked sexual instincts do not express themselves any longer as sexual instincts; that is the only thing gained; but they crop up in other forms which are just as harmful for the individual and make him as useless for society as the direct gratification of his perverted instincts. This is wherein the process fails and this failure more than offsets the success achieved.

The substitute manifestations which crop up when the sexual instincts are repressed constitute what we designate as nervousness or more especially psychoneurosis. The neurotics are a class of people who, much against their own constitution and only yielding to the pressure of cultural standards, apparently succeed in repressing their instincts but fail more and more frequently in their undertaking as time goes on; it is only with a great expenditure of energy and at the cost of their inner impoverishment that they can continue to collaborate in the work of civilization; at times they drop out of the race laid low by illness.

If I have designated the neuroses as the negative phase of perversion it is because in neuroses the perverted tendencies, after being repressed, crop out of the psychic unconscious, because we

find in neuroses the very same impulses which positive perverts betray, but in a repressed state.

Experience teaches us that there is, for the majority of men, a limit beyond which their constitution cannot comply any more with the "cultural" demands. Those who are trying to be better than their constitution permits them to be succumb to neuroses; *they would have been better off if it had been possible for them to be worse.*

Observations made among individuals of the same generation often confirm the hypothesis that perversion and neurosis stand towards each other in the relation of positive to negative.

It frequently happens that a brother is a sexual pervert, while his sister, who as a woman is endowed with a weaker sexual instinct, is a neurotic; her symptoms, however, betray the same tendencies as the perversions of her brother whose sexual activity is more intense. And this is why in so many families the men are perfectly healthy but immoral according to the usual social standards, while the women are very pure and super-refined. . . . but terribly neurotic.

It is a crying social injustice that the cultural standard should exact from every one the same behavior in sexual matters; some people are so constituted that they can easily conform with it; others, on the contrary, are compelled to make the most painful psychical sacrifices; this injustice is rendered perfectly futile however by the fact that the majority of people disregard the precepts of "morality."

We have thus far based our comments upon the standards of the second cultural stage which places a ban on every so called perverted sexual activity but allows freely normal sexual intercourse. We find that even with the establishment of a boundary line between what is free and what is restricted, a certain number of individuals, the perverts, are left in a blind alley, while others who, in spite of their constitutional urge, are trying not to be perverts are driven into neuroses.

It is easy, therefore, to foresee the result which will be attained if we place new restrictions upon sexual freedom, raise the cultural standard to the level of the third stage and prohibit all sexual intercourse except in lawful wedlock. The number of strong individuals who will defy openly the cultural standards will increase enormously and so will the number of weak ones for whom the conflict between the pressure of cultural influences and

the resistance of their constitution will have only one outcome: neurosis.

This leads us to discuss three relevant questions:

1. What duties does the cultural standard of the third stage place upon the individual?

2. Does the lawful sexual gratification it allows compensate the individual for the abstinence he has had to endure?

3. To what extent do the harmful results of that abstinence offset the cultural advantages accruing from it?

To answer the first question we must touch upon a much mooted problem, which we cannot attempt to solve here, that of sexual abstinence.

What the third cultural stage demands from the individual of either sex is abstinence before marriage, and lifelong abstinence for whoever cannot contract a legitimate union. The assumption fondly backed by all the authorities that sexual abstinence is neither harmful nor difficult to bear, receives also frequently the support of physicians. The task, however, of checking an urge as powerful as the sexual urge by other means than its natural gratification is one that consumes all the energy a man is capable of.

Checking it by sublimating it, that is by deflecting the sexual instinct from its sexual aim and towards loftier cultural aims, succeeds in a few cases, but only temporarily; the task is especially arduous in the fiery period of youth; in certain individuals attempts at sublimation provoke neuroses or other disorders.

Observation proves that the majority of people are constitutionally incapable of abstinence. Whoever suffers from moderate restrictions placed upon his sexual activity will chafe even more under the demands of our modern sexual morality; for sexual gratification is the only known protection nature affords to the normal sexual life against misdirected tendencies and irregular development. The more one is predisposed to neuroses, the less one can endure abstinence; the partial urges which deviated from the normal line of development have also become more uncontrollable.

But even individuals who would not have been harmed by complying with the demands of the second cultural stage are now driven in large numbers into neuroses. For the psychic desire for sexual gratification is enhanced by the mere fact that it is denied. The accumulated craving is now seeking an outlet

through one of the weak spots in the structure of the sexual life, which is seldom free from such weak points, and then it breaks through and satisfies itself by means of some neurotic substitute in the shape of morbid symptoms.

Whoever fathoms the causes of nervous disorders soon comes to the conclusion that their increase at the present day is due to the greater and greater restrictions placed upon sexual activity.

We come now to the question whether sexual intercourse in lawful marriage does not compensate fully for the restrictions placed upon it before marriage. The amount of *negative* evidence at hand is so huge that we must make our arguments as brief as possible.

We must remember that our cultural sexual morality restricts even conjugal intercourse, for it compels married people to procreate a limited number of children only. That consideration limits the period of satisfactory intercourse in marriage to only a few years from which must be deducted the various occasions on which the wife must be spared for hygienic reasons. After three, four or five years marriage no longer suffices to gratify the sexual needs; for all the means that have been thus far resorted to in order to prevent conception spoil the sexual enjoyment, disturb the finer sensibilities of man and woman or are the direct cause of illness. The fear of the consequences is fatal to the physical fondness of the mates, and later on to the mental fondness which should replace the stormy passion of the first embraces.

What with this moral disappointment and this physical privation, which is the rule in many families, man and wife find themselves exactly where they were before marriage, with the only difference that they have lost one more illusion and they must once more exert their will power to control their sexual instincts and deflect them into other channels.

We need not go far to find out how adult man behaves in such cases; we know that he takes frequent advantage of the measure of freedom which even the severest sexual morality vouchsafes him, though secretly and grudgingly. The double standard which obtains in present day society is the frankest admission that society, much as it may issue decrees, does not believe that its decrees can be enforced.\*

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\* This is not true of Anglo-Saxon countries. In these extra-marital intercourse is looked upon much more severely than in the Latin or Germanic countries.—Editor.



We also know that women who as the actual standard bearers of mankind's sexual life are only to a restricted extent able to sublimate their instincts, women for whom the child at the breast, but not the growing child, constitutes a compensation for sexual privation, suffer keenly from the disappointments of married life and contract incurable neuroses.

Under the conditions of modern civilization marriage has ceased to be a panacea for woman's nervous ills; while we physicians will still advise marriage for cases of nervous disorders, we know very well that a girl must be very healthy to stand married life, and we advise strongly our male patients against marrying a girl of the nervous type.

We might say that the cure for the nervous troubles caused by marriage is conjugal infidelity; the more strictly a woman has been brought up and the more earnestly she has adapted herself to the cultural standards, the more repugnant that solution appears to her; the conflict between her desires and her feeling of duty drives her again to take refuge in a neurosis. For nothing protects her virtue as well as illness. The married state from which youth has expected the gratification of its sexual instincts cannot even satisfy the demands it creates; how could it offer any compensation for the period of abstinence which precedes it?

One may admit all the harm done by the cultural sexual morality, and still answer our third question by claiming that the cultural gains redounding from the restrictions placed on sexual activity probably offsets a form of suffering which only a small minority feels acutely. I confess I am unable to balance accurately such profit and loss accounts, but I could bring forth many points which would enable us to estimate fairly the actual losses.

Returning to the subject of abstinence which was barely touched upon in the foregoing pages, I may express my conviction that abstinence is the source of various ills *besides neuroses* and that in the majority of cases the importance of the neuroses has been minimized.

The retarding of sexual development and sexual activity which is the aim of our education and culture is certainly harmless. That retarding appears very necessary when we consider the age at which young people of a cultured class begin to earn a livelihood and become financially independent. And here we are reminded of the intimate dovetailing of all the modern cultural in-

stitutions and of the difficulty we encounter when we attempt to modify one part of the social structure without taking thought of the rest.

Abstinence after the twentieth year is a difficult thing to achieve for a young man and when it does not cause nervous disorders it causes other troubles. We hear it said that the struggle against a strong instinct and the necessary cultivation of ethical and esthetic power in mental life steels one's character and is beneficial to certain natures with an especially fortunate turn; we must also concede that the differentiation of individual character which is such a marked feature of modern times is only rendered possible by the restriction of sexual activity. In the great majority of cases, however, the struggle against sensuality consumes all of a young man's available energy at the precise moment when he needs it most to win for himself a place in the social organism.

The proportion of possible sublimation and of unavoidable sexual activity varies considerably according not only to the individuals but to the careers they follow. Abstinence is hardly thinkable for young artists while young scientists who abstain are not a rarity. The abstinent scientist can devote more of his energy to his studies; sexual experiences, on the contrary, act as a stimulant to artistic activity.

My general impression is that sexual abstinence does not help to build up energetic, independent men of action, original thinkers, bold advocates of freedom and reform, but rather good weaklings who become merged later in the great mass which follow, though reluctantly, the impulses emanating from strong personalities.

The results of the efforts made to promote abstinence prove that the sexual instinct is, generally speaking, stubborn and impossible to curb. Our modern education only tries to repress it until marriage and intends to give it then a free rein and let it take care of itself. But extreme measures have more decided effects upon that instinct than mere attempts at moderating it; the process of repression often goes too far and it happens that the sexual instinct after being given a free rein is found to be permanently damaged.

Complete abstinence is not therefore the best preparation for matrimony for a young man. Women seem to feel this and prefer to be wooed by men who have demonstrated their virility with other women.

One can realize readily the functional disturbances which are provoked in woman by premarital abstinence. Modern education assumes in great earnest the task of repressing a girl's sensuality until the time when she marries and it often resorts to the severest means. Not only does it place an absolute ban upon sexual intercourse, and offer many inducements to the woman who retains her sexual innocence but it also protects the female against temptation by keeping her in ignorance of the details of her future vocation and removes all the sensual stimuli which do not lead to marriage.

The result is that when parental authority allows a girl to bestow her love on a man, she fails to respond psychically and she enters the matrimonial state with a good deal of uncertainty as to her own feelings. The artificial retarding of her love function only prepares disappointment to the man who has saved up all his desire for her; mentally she is still dependent upon her parents whose authority has succeeded in repressing her sexual instincts; she will prove a frigid wife, an attitude which precludes any real sexual gratification on the part of her husband.

I do not know whether the type of frigid woman exists outside of the civilized races; it may exist there; our system of education, however, is well adapted to the production of that type and these women who conceive without any joy show very little willingness to submit to frequent and painful motherhood.

The very preparation for marriage defeats the ends of marriage; when woman finally surmounts victoriously the difficulties placed in her way by her retarded development, and reaches the height of her femininity and her full capacity for loving, her relations with her husband have long ceased to be agreeable; the only reward for her submission to ethical standards is either ungratified longing, or infidelity or neuroses.

A man's attitude in sexual matters often moulds his attitude towards other life matters. When a man goes forth energetically to conquer the object of his sexual desires, we can expect from him the same amount of ruthless energy in his pursuit of other objects. The man who can be deterred from seeking the gratification of his sexual instincts by too many considerations, will on every occasion show a conciliatory and resigned spirit rather than self assertion.

The moulding influence which the sexual life exerts on the other functions is well illustrated by women's attitude to life. Their education forbids them to apply their minds to sex problems,

for which they feel, however, the greatest curiosity; it terrorizes them by telling them that such a curiosity is unwomanly and evidence of sinful propensities. Being forbidden to think of those matters they hold all knowledge of them worthless. The ban placed on thinking reacts upon the sexual sphere, partly on account of the dovetailing of all human functions and partly in an automatic way, just as the ban placed on criticism of a creed reacts upon the faithful, or the dictates of loyalty upon obedient subjects.

I do not believe that the biological contrast between intellectual work and sexual activity explains, as Moebius stated in his much mooted work "The Physiological Weak-mindedness" of woman. I think, on the contrary, that the indubitable fact of woman's intellectual inferiority is to be traced to the mental restraints placed upon her in order to repress her sexual instincts.

In discussing abstinence too little care is generally taken to draw a distinction between the two varieties of abstinence, abstinence from all sexual activity altogether and abstinence from sexual intercourse with the opposite sex. Many people who pride themselves upon having remained abstinent only obtained that result with the help of masturbation and other means of gratification related to the autoerotic sexual activities of infancy.

It is precisely the direct relation between these substitute forms of sexual gratification and infantile sexuality which make substitutes harmful; they predispose the subject to the many varieties of psychoses and neuroses which reveal a return of sexuality to its infantile forms. Masturbation doesn't accord in any way with the ideal demands of civilized sexual morality and does not save the young people from the conflicts with the educational ideals which they were anxious to avoid through abstinence. Masturbation also spoils the character in many ways; it accustoms one to pursue important aims without any exertions, and to follow the line of least resistance instead of fighting for success with all the energy at his command; this is an instance of the sexual preformation of character; secondly, the fancies which accompany the gratification endow the object of the sexual desire with a perfection which is seldom met with in reality. A witty writer (K. Krause in the Vienna "Fackel") turned the tables on those who condemn the practice of masturbation and let the truth out in the cynical statement that "coitus is only a meagre substitute for masturbation."

Owing to the severity of the cultural demands and the difficulty of preserving abstinence, abstinence has come to mean es-



essentially that the genitals of opposite sexes are to be kept separated; other forms of sexual activity which are a sort of half compliance with the demands of civilization have been thus fostered and encouraged.

As normal sexual intercourse is forbidden not only by morality but, owing to the possibilities of infection, by hygiene as well, other forms of intercourse, designated as perverse, and in which other parts of the body are taking the place of the genitals, have assumed a decided social importance. Those perversions, however, are not as harmless as certain normal excesses between lovers; they are ethically reprehensible for they transform a serious matter, the love relations of two human beings, into a mere form of play devoid of danger but also bereft of all psychic interest.

Another consequence of all the difficulties that beset the normal sexual life, is the spread of homosexual gratification; to the number of those who were not constitutionally homosexual or became such in childhood we must now add those who in later life, unable to use the main avenues of sexual gratification were forced into the side street of homosexuality.

These unavoidable and unforeseen consequences of the abstinence movement have one common result, they unfit the individual for married life which, according to the intention of "civilized" sexual morality was to be the only beneficiary of all the sexual impulses.

All men who have indulged in masturbation or other perverse sexual practices, that is have gratified their libido under abnormal conditions and in abnormal situations, enter marriage with a diminished vitality. The women who could only preserve their virginity by resorting to similar practices show themselves frigid in matrimonial intercourse. A marriage entered into when the contracting parties suffer from a diminished capacity for love will break up quicker than any other form of union. The man's low virility fails to satisfy the wife's desires; the wife in whom education has developed a disposition to frigidity, which might, however, have yielded to powerful sexual stimulation, remains totally indifferent. Such a couple encounters more difficulties than a normal couple would, in trying to prevent conception, *for the man's lack of strength does not make it convenient for him to use preventives*. Under such unfavorable circumstances intercourse which only appears to be a source of unpleasantness is finally given up and thereupon the marriage loses its *raison d'être*.



Experts will testify that I am not exaggerating and that I am only describing conditions which can be observed in multitudes of cases.

It is hard for the uninitiated to believe what a small proportion of men there are in possession of their full virility and how many frigid women there are, tyrannized upon as they all are by the modern cultural standards, what renunciation marriage entails sometimes for both husband and wife, and to what slight extent marriage vouchsafes the happiness so ardently longed for.

I previously mentioned that under such circumstances, the next step was a neurosis; I will now add a few remarks on the consequences of such a union for the children, I mean the only child or the very few children, it brings into the world. We may think those children affected by hereditary influences, but on closer inspection we observe that their condition is the result of deep impressions received in infancy.

The neurotic mother, unsatisfied by her husband, lavishes tenderness and care upon her child and awakens in him a premature sexual maturity; the misunderstanding between the parents arouses the child's feelings, and causes it to experience very deeply love, hate and jealousy at the tenderest age. And then a severe training which does not permit of the exercise of the sexual instincts, aroused so early in life, acts as a repressive agent; such a conflict at that age embraces all the factors that are necessary to bring about chronic nervousness.

I repeat the statement I made above to the effect that in discussing neuroses one generally fails to estimate properly their absolute importance. I do not mean the way in which symptoms are minimized by the patient's relatives who simply disregard them or the family physician's gratuitous assertion that a few weeks hydrotherapeutic treatment, or a few months rest will remove the condition. All that is mere guess work on the part of laymen or ill-informed physicians, idle talk destined to give the patient temporary comfort. We know, however, that a chronic neurosis, even if it does not present any danger to life, constitutes a serious life taint, something like tuberculosis or cardiac disease.

Neuroses would not be so baneful if they only debarred a few weaklings from cooperating in the work of civilization and allowed the others to take part in it at the price possibly of a subjective annoyance; but I must lay stress on the fact that a neurosis, whatever its degree may be and whomsoever it may affect, can set at naught the plans of civilization and thus enable the repressed

anticultural instincts to make their influence felt. And thus our present society cannot even register gains made at a high cost; it gains nothing whatever when it pays for mankind's submission to its extensive code of morals with an increase in neurosis.

Let us take for instance the case observed so frequently of a woman who does not love her husband because owing to the conditions of her union and to her matrimonial experience she has absolutely no reason for loving him; she would like to love him, however, because that is in accord with what she has been brought up to consider as the ideal of married life. She will accordingly suppress all the instincts that would reveal the truth and counteract her ideal endeavor; she will take special care to act like a loving, tender and thoughtful wife. Neurotic troubles will soon follow upon that attempt at self-repression; a neurosis will soon avenge her upon the unloved husband and cause him just as much unpleasantness and sorrow as the real truth would have caused him had he known it.

This example is very characteristic of the process of neurosis.

We observe the same vicious form of compensation when other instincts, anticultural but not of a directly sexual nature, are being suppressed. People who make powerful attempts at repressing their constitutional tendency to harshness and cruelty and become apparently ultra-good often lose so much of their energy that they cannot fulfill all the duties which correspond to their compensation instincts and do even less good than they would have done if none of their instincts had been repressed.

We may rest assured that to the repression of sexual activity in a race there corresponds an increase in the anxiety about life and the anxiety about death; this mars the individual's enjoyment and diminishes his willingness to risk his life for the sake of any aim or to bring forth children; it tends to disbar the race or the human group thus affected from a share in the future.

We may well ask the following question: Is our "civilized" sexual morality worth the sacrifice it imposes upon us, especially when one has not freed himself completely enough of hedonism not to include a certain measure of individual gratification among the aims of civilization?

It is not a physician's province to come forward with reform schemes; I thought, however, I could confirm the imperative necessity of reform in this direction by showing the damages caused by our "civilized" sexual morals and pointing out the part it plays in the spreading of nervous disorders in modern times.

## SEX IN THE SMALL TOWN

A Report and A Query.

By \* \* \* \* \*

Note: For obvious reasons the writer must remain anonymous but the problem suggested occurs everywhere. There is no need to go west for data should the reader be interested and feel competent to undertake this rather difficult study.

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It is usually assumed that sexual precocity implies an inevitable retribution, the nature of which depends largely on the author's ability to imagine horrors. Those of us, and there are not a few, who can recall our childhood are at times strongly tempted to suspect that much of the "viewing with alarm" has in sex matters the same significance which it has in a political platform. To cite an example:

The middle-west town of B—— boasts about a thousand inhabitants. These are essentially middle class merchants and farmers without appreciable class distinctions, neither very rich nor very poor. Socially one family is as good as another, though there are a few "best" families. The village being located at a reasonable distance from any wicked city, with five churches and several sects, it should according to conventional notions be rather above the average in sex morality. It seems to be assumed that in the country purity is epidemic, presumably because the parents remaining silent, instruction in sex is left to the illuminated leadership of the peripatetic hired man, hired girl, or the journeyman tinner, barber or painter.

Stated briefly the result was as follows: Without exception every boy in B—— was sexually active by his eighth year and a large proportion were indulging in intercourse or masturbation by their sixth. This is a strong statement, but true. All masturbated more or less up to maturity, when other relations became better established. Not only were these informal personal habits the rule, but with all the naiveté of childhood certain association comedies were indulged in. Besides the far from innocent games of "playing house" or "papa and mamma" they had one game called w—— house. An eight year old boy kept the door and collected pins as fees while girl playmates acted as inmates, and the rest of the gang were the patrons. Contrary to the usual

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\* The writer is a man of high standing, in a responsible government position, and there is no question as to his reliability and bona fides.—*Editor.*

assumption these girls were not of the "lower classes." They belonged as the boys did, to the best families, if that phrase has any meaning. And those girls are today conscientious and respected mothers, the wives of the leaders in the community. Certain girls achieved a reputation for special charms and in many ways the child life was an interesting imitation of the life of the grown ups.

It must not be assumed that sexuality was the only diversion of these children. There were Indians to be hunted down, wild beasts—including "elefunts" and tigers—to be slain and many other matters of interest to children. But the sex life continued as indicated.

The sex latency period was present but shortened at both ends. It affected mostly the girls and the less aggressive boys. About the twelfth year love affairs began and continued with an occasional shift of partners through the adolescent period. These love affairs were a peculiar mixture of romantic chivalry à la Tennyson and straightforward physical gratification. Later these "most degenerate" couples married and begat children.

There is the picture as accurately as I can draw it and carefully sifted reports from similar towns in various parts of the country show that the condition is not uncommon. Even the rather naive game mentioned occurs elsewhere. A fair estimate of conditions on the surrounding farms where the children all belong to the same family states that perhaps a third of the boys reach adolescence without intercourse while masturbation begins somewhat later, say the tenth year for such cases.

If our conventional sex "dope" is true, one might suppose that the town of B—— required only a psychiatrist, a few nurses and a whitewashed fence around it in order to draw on the state appropriations for asylums. Insanity, nervous and physical breakdown should be the rule, while any offspring should be either still-born or imbecile; and yet this has not happened. None of these "degenerates" has been committed to an asylum, marriage is as common and quite as happy as elsewhere. The children, and a few grandchildren, are not to be distinguished from the young in communities where, we are assured, sex conditions are conventionally proper. Nervous disease is not more common than elsewhere, if anything it is much less frequent than in cities. The only cases of nervous disease I know of were a few very proper girls who remained unmarried, and one boy of the psalm-singing type. Phy-

sically there is no evidence of the evil effects of this degenerate precocity. It is difficult to make a quantitative estimate of the possible spiritual injury, but the community is in no way different from any other. It has contributed its share of successes, rather mediocre perhaps, certainly not genius, but genius and normal sexuality are not often synonyms. Perhaps the wrath of God is slow in coming and then again perhaps we know less of his intentions than we suppose.

Nowadays, when I meet the girls, who played the ingenue parts in those tragi-comedies, married now and with good healthy children of their own, I wonder if they remember and what sort of adjustments they have made between their memory and their mature conventions. Apparently it has all been forgotten; even the boys, while they have not repressed those ideas, have buried them under a mass of more important matters.

Finally, I wonder if most of our talk about the danger or possibility of polluting the young—if we do not put mother-hubbards and pajamas on the statues in art museums—is not mostly guff; if the manifold evils we ascribe to precocity are not more due to a subsequently inculcated fear; and whether every disease or disturbance whose origin is not obvious, has not been rather uncritically ascribed to sex—or cigarettes. I do not know. But I do know that a condition which is called degenerate and is exceedingly common, has not in three generations of which I have direct knowledge, produced any of the evils which the sex books so confidently predict.

In closing, it may not be amiss to observe that aside from precocity the sex life at B—— approximated normal on the physical side, that is, there was not the constant stimulation without the possibility of gratification which characterizes our city life today. Mental masturbation had little soil on which to flourish and the physiological environment was good. At any rate it seems worth while to raise the question whether in this as in so many other matters our conclusions have not been rather hasty and based on insufficient evidence. We are less interested in the morality of these towns than in the effects. Let no one imagine that he can get at the facts by wandering into the next town and asking the clergyman and the doctor, for the villager is very careful not to display his unconventional activities before either. When grown up the villager is just as respectable as anybody, if not more so.



## INCEST IN MORMONISM.

BY THEODORE SCHROEDER, New York City.

**B**Y psychanalysts it is now believed that adolescence is not a sudden revolution, but the culmination of an evolutionary process, of prenatal genesis. From this view point we all have a pre-adolescent sex-life and the love between parent and child is largely the manifestation of this immature sexuality. If physical maturity is unaccompanied by a corresponding maturing of the mental attitude, infantile psycho-sexual attractions tend toward incestuous relations. To the psychanalyst the mythology and fables of primitive people often reveal these incestuous phantasies. The modern view of incest, like that of perversions, is that it is simply an infantile mode of meeting one's sex-problem. If we retain this attitude in consciousness, while reading the following pages, it may relieve us of our "moral" horror, also largely infantile, and will correspondingly enlarge one's possibility for understanding the phenomena herein related.

The Mormon social experiments might easily have afforded a very valuable sociological laboratory, if only their life had been accompanied by a little of dispassionate, scientific interest and efficiency at scientific observation. Unfortunately this was not so, either among the Mormons or their opponents. Perhaps if it had been so their peculiarities never would have developed. Unfortunately then we cannot adequately profit, even by making the best record that is now possible, when the old conditions are largely passed away.

Conditioned as were the early Utah Mormons, living as free from the ordinary conventional restraints of society as the Indian and under the influence of a most intense revival excitement, when every sermon and every example of practical life, furnished by those whose voice was the voice of God and whose will was the will of God, directed attention to matters of sex, it was as unavoidable as the law of gravity that still other sex irregularities should follow. One of these was the ecclesiastical justification for and the practice of incest.

Old time Mormons and the anti-Mormon periodicals and books give us scores of specific instances where polygamists have married several sisters, often by the same ceremony. At the head of this list is Brigham Young who married sisters, and next in importance are the examples of three men who each married two of

Brigham Young's daughters.<sup>1</sup> Several cases exist where men married three sisters by the same ceremony. John A. Young married Luella Cobb, a step daughter to his father, Brigham Young.<sup>2</sup> One of Brigham Young's grandsons married his own aunt.<sup>3</sup> Many cases exist of men marrying a mother and one or more daughters by a former husband, among them being "Prophet" John Taylor.<sup>4</sup>

Such marriages are offensive enough when viewed from the standpoint of our traditions, and yet we must consider them as a harmless incident when viewed beside the other accompaniments of polygamy, because in the former case no claim can be made that added congenital ills will be transmitted to the child from the mere fact that its father has had or will have other children by the mother's relation. Such occurrences, though doubly shocking because of their supposedly high ecclesiastical endorsement, are but the milk of this gospel of infantile sexuality. The strong meat is yet to come.

Having laid down the premises that the divine purpose in the creation of woman imposes on her a duty toward God to "multiply and replenish the earth" with the greatest number of pious offsprings,<sup>5</sup> and the further premise that all offspring are illegitimate, are "bastards" in the sight of God, which are not the result of marriage sanctioned by a Mormon "sealing",<sup>6</sup> thence it follows quite logically that no real faithful orthodox Mormon woman will marry a non-Mormon<sup>7</sup> because the latter cannot go through the Temple marriage-ceremony, and their marriage and offspring would be illegitimate before God. It is therefore not illogical to conclude that rather than marry a Gentile who cannot get her into Heaven's most exalted state, and whose offspring cannot claim divine favor, or add to the celestial glory of the parent, it would be better that she be "sealed" as a wife to her own father by whose priesthood and through whose children by her she can secure an exaltation unattainable through a Gentile husband. This explains why non-Mormons are warned against the hope of uninterrupted bliss when intermarrying with Mormons.<sup>8</sup>

I am reliably informed that an apostle publicly taught this doctrine of the superiority of such incestuous marriages upon the

<sup>1</sup> Wife No. 19, p. 311.

<sup>2</sup> Through America, by W. A. Marshall, p. 221.

<sup>3</sup> Through America, 177.

<sup>4</sup> Rocky Mountain Saints, 195.

<sup>5</sup> I, Journal of Discourses, 59-93; XXVI Journal of Discourses, 181.

<sup>6</sup> XVII Journal of Discourses, 226-227.

<sup>7</sup> XV Journal of Discourses, 251-2. XXI Journal of Discourses, 51.

<sup>8</sup> II Journal of Discourses, 208.

ground stated. Mark you, it was not said that the time was at hand when marriage to one's father was right, but that it was a lesser evil than marriage to a non-Mormon, and this was a logical deduction from Mormon theological teaching. Brigham Young is accredited with having taught that the time would come when it would be right. When the ancient order of things is fully re-established, as is claimed by the Saints will be done through Mormonism, then we may expect that, as the examples of polygamy by Abraham, Isaac and Jacob are now lauded as divine precedents for moral guidance, so will also the example of Lot's relations with his daughters be made an evidence that incestuous sexuality is the reward that God offers for piety and tithe-paying.

Brigham Young stated in the pulpit in 1852 that the time might come when for the sake of keeping the lineage of the priesthood unbroken marriages would be *confined to the same families*, by having children of the same father through different mothers intermarry.<sup>9</sup>

William Hepworth Dixon, the noted English traveler, historian, and for years editor of the London Athenaeum, who was so partial to Mormons, judging from the Gentile standpoint, that he was contemptuously referred to as a "Jack-Mormon" (Salt Lake Tribune, December 28, 1879), tells us of an exposition of the doctrine of incestuous marriages made to him by Brigham Young under the seal of privacy. The Prophet requested secrecy lest he be "misunderstood and blamed." The confidence was not violated by Mr. Dixon, but in reporting a subsequent conversation with the Prophet he gives us an inkling of what it is by a reference to "new light on the virtue of breeding in and in." In the published part of this conversation Brigham Young declared he saw no objection to a marriage between brother and sister, except prejudice, and though claiming that such marriages never took place, said they were not prohibited by the church.<sup>10</sup>

These stories of Mormon esoterics, though they come from non-Mormon sources of utmost reliability, are so revolting to many as to be quite discredited, were there not so many unimpeachable corroborating circumstances. One of these, which amounts to a demonstration, is a sermon by "Apostle" Orson Pratt, as published in an authorized Mormon publication, in which, upon like

<sup>9</sup> Utah and the Mormons, 253. See additional statement along the same line in Life in Utah, 369-372.

<sup>10</sup> New America, 190-1-2, followed in Life in Utah, 371.

reasoning, he justifies a man in marrying his own sister. Here are the exact words, which every consistent, devout Mormon ought to accept as the very word of God:

"It had also been lawful for a man to marry his own sister as in the days of Adam, for you know there were no other ladies on the face of the earth for the sons of Adam except their own sisters, and they were obliged to marry them or live bachelors. But the Lord saw proper when he brought the children of Israel out of Egypt into the wilderness, to regulate the law of marriage, so far as certain blood relations were concerned called the laws of consanguinity, which speaks of a great many relationships, and finally comes to a wife and her sister. This law was given to regulate the marriage relations of the children of Israel in the wilderness. *It was not to regulate those who lived before that day who had married sisters; not to regulate those who might live in the latter days but to regulate the children of Israel in that day.*"<sup>11</sup>

Nor were all these doctrines allowed to rest as mere abstract convictions, such as are not to be put into practice except in some other life. Here is the story of incest as practiced by the late G. D. Watt, official church stenographer for many years and one of the reportorial staff of the *DESERET NEWS*, that being the official church organ. "Elder" Watt brought to Salt Lake City from Scotland his half-sister and went to "Brother Brigham" for permission to take her as his polygamous wife. In answer to Brother Brigham's objections, Elder Watt urged the example of Abraham of old and "reckoned" he had just as much right as Abraham. If Abraham's example justified polygamy, it was equally authoritative as to incest, for did not "the man of God" marry his half-sister Saria? Watt's half-sister was attractive in the eyes of the "Prophet", so "Brother Brigham" decided to take her himself. After a few weeks experience with this new wife, Brigham Young decided to unload; so he sent for Watt and told him there was force in the precedent of Abraham, and accordingly Watt accepted his half-sister to wife from the arms of the Prophet. This strange exhibition of the slave-virtue of humility to such unusual degree, recommended Watt to the very favorable attention of the "authorities."<sup>12</sup>

<sup>11</sup> XVII Journal of Discourses, p. 222.

<sup>12</sup> Hyde's Mormonism, 56-7; A Journey to Great Salt Lake City, by Ramey and Brenchley, 139-140; Wife No. 19, p. 310.



Owing to the incapacity of the Gentiles to rightly appreciate the things of the "Spirit" it was thought best for a time to conceal this incestuous marriage by having the woman appear as the wife of Brigham Young, which she did for several years. She lived twelve years with her brother as a polygamous wife and then, because of her brother-husband's cruel treatment, she went to Fort Douglas for protection and later joined the "Josephites".<sup>13</sup> It is said that Brigham Young's reason for casting the young wife off so easily was because her delicate condition gave evidence that the amorous half-brother had anticipated marital privileges.<sup>14</sup>

An apostate writing before 1870 says that it is not an uncommon thing for Mormons to marry their nieces. Ann Eliza Young names several such cases, among them Bishop Johnson, of Springville, Utah, who married six of his nieces.<sup>15</sup> Many other similar instances are given. Elder Hyde informs us that as conspicuous a saint as S. W. Richards married his cousin<sup>16</sup> a mere girl. It often happens that children of the same father by different women intermarry.<sup>17</sup> A traveler in Utah during 1858 leaves this record of his observations: "A man in this territory has married five of his own daughters, another has married his mother, others their daughters, and others mothers and daughters; one man married two sisters on the same night."<sup>18</sup>

Another recorded case is that of a very young girl being "sealed" to her own grandfather, having been literally forced into it by her own mother and grandmother under circumstances so revolting that the narrator says "delicacy would not allow me to repeat them even to one of my own sex."<sup>19</sup> There is also a recorded case of a very young girl being coerced by her mother's castigations into marrying the joint husband of her mother and her grandmother. Three generations of women married to the same pious Mormon. All four, together with nearly grown-up offspring, lived, cooked, ate and slept in a house of but one room.<sup>20</sup> This is not the only case of a man marrying three generations of women.<sup>21</sup>

<sup>13</sup> Life in Utah, 138; Waite's Mormon Prophet, 190.

<sup>14</sup> Life in Utah, 368.

<sup>15</sup> Wife No. 19, p. 310; Life in Utah, 367.

<sup>16</sup> Mormonism, 59.

<sup>17</sup> The Exposé or Mormons and Mormonism, 61.

<sup>18</sup> Emerson's Magazine, September 1858, p. 323.

<sup>19</sup> Women of Mormonism, 138.

<sup>20</sup> Women of Mormonism, 137; The Mormon Delusion, 194.

<sup>21</sup> Life in Utah, 371, quoting from Wm. Hepworth Dixon.



In one of these cases the men married two sisters and for a third wife took a daughter of one of these sisters by a former husband. This third wife left him to marry another man who died, whereupon she rejoined her mother's husband in marital relations and brought with her the children by her deceased husband. That saintly elder whom her mother and herself called husband, soon married her daughter by the deceased husband. Thus this child became the fourth wife to the man who had for his other three wives, her mother, her grandmother, and her great aunt. Three of these women bore children to this man, and with them all he lived in a miserable hut of two small rooms.<sup>22</sup> In another case a man married his own half-sister and her mother, the latter being his father's widow.<sup>23</sup> The last and one of the other stories are vouched for by the wife of a federal official as having come under her own observation.

Sometimes a man will marry a widow with young daughters, it being part of the arrangement that he is to marry his stepdaughters as soon as they are old enough. Ann Eliza Young, Brigham Young's nineteenth wife, tells of a pathetic case in which the child knew the arrangement and spoke freely of the anticipation of "marrying pa".<sup>24</sup> In view of all this it is no surprise to find a Mormon woman living in marital relations with her husband's son by another wife<sup>25</sup> or a man going through the temple and being "sealed" to his own daughter as his polygamous wife.<sup>26</sup>

George C. Bates, once attorney for the Mormon church, and three years United States Attorney for Utah, and six years resident there, in a letter to the *Denver Tribune* says that during 1875 in Southern Utah he saw dining at one table five polygamist wives of one Mormon bishop, having at home at that time thirty-six children, boys and girls from ten to twenty years of age. In the winter these young Mormons all slept in one very large room overhead, and in the summer they all huddled together on the straw at the barn. Several of these young unmarried girls were bearing children to their male relations. He adds that "these things were winked at" by Mormon church leaders.<sup>27</sup>

<sup>22</sup> The Mormon Delusion, 204.

<sup>23</sup> Women of Mormonism, 138.

<sup>24</sup> Wife No. 19, 321; See for similar case, Life in Utah, 138.

<sup>25</sup> Polygamist Mormons, p. 60.

<sup>26</sup> Polygamist Mormons, 190.

<sup>27</sup> Hand Book of Mormonism, 26; The Mormon Delusion, 197.

Until 1892 there was no Utah legislation against incest. The Edmunds-Tucker law, passed by Congress, had made incest punishable, together with unlawful co-habitation, polygamy, etc. In 1890 the Mormon Church issued its manifesto, advising people to refrain from contracting any further polygamous marriages. In order to make evidence of good faith on the part of the Mormon people, the legislature of 1892 enacted as a law of the Territory of Utah the provisions of the Edmunds-Tucker law, including a definition of the crime of incest and prescribing a punishment therefor. That was the first act of a Mormon legislature expressing disapproval of incest. In the light of what has gone before the reason of the long silence will perhaps be apparent, because in their state of intelligence it cannot be assumed that opposition or indifference to the prohibition of incest was due to any biologic intelligence as to its relation to harmlessness.

Elsewhere I have exhibited the sex determinant in Mormon theology, (See *Alienist and Neurologist*, XXIX, p. 208-222, May, 1908), which first led me to the more general study of the erotogenesis of religion. It seems to me that the Mormon attitude toward incest is psychologically related to its theology.

The story of this incestuous tendency therefore, suggests to my mind that many of the Mormons, including many of their leaders, had a fixation of psycho-sexual attitude at the pre-adolescent evolutionary level. This fixation of family attachment, intensified by physical maturity and its more distinctly sexual cravings, produced the result above portrayed. The great sexual enthusiasm which brought to light the infantile incestuous tendency was synchronous with the great "Utah Reformation" and its new zest for polygamy and the justifying theology. Thus do we connect all these events as but different manifestations of infantile sexuality. In psycho-sexual immaturity, many fail to recognize their ecstatic states as essentially and genetically sexual. In consequence of this ignorance it is a mystery for which the immature mind must find some occult explanation. Adolescent timidity, coming to consciousness as shame, conduces subconsciously to a compensatory glorification of sex.

Thus we see that those who fail to acquire a consciously grown-up attitude toward their sex-impulses must exaggerate the sacredness or sinfulness of these just to the same degree that they are obsessed by the impulse itself, either in its beneficent or shame-

ful aspects. This is both the psychology of the purist and of the religious sensualist. Because the source is the same, therefore, the seeming difference is only a difference of emphasis on contrary aspects of the same thing. In consequence of this we find the extreme of purism and sensualism to be easily interchangeable manifestations in the same person. Indeed, they are but different word-symbols for the identical physical fact, and expressive of one or the other factor of an emotional conflict within the individual. The emotional attitude which is expressed is determined by the kind of impression which, often subconsciously, we desire to make on others.

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Translated for THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## SEXUAL ABSTINENCE AND ITS INFLUENCE ON HEALTH.

BY PROFESSOR ANTON NYSTRÖM, M.D., Stockholm.

After discussing for twenty years the question as to whether sexual abstinence is injurious to one's health moralists, educators, and physicians have managed to reach the most contradictory conclusions.

Why is it that opinions on this subject differ so radically?

While other biological subjects are being investigated in a perfectly scientific manner, ethical considerations intrude themselves into the study of the sexual functions. Theology also has made its influence felt in this connection and has introduced into the discussion many erroneous notions as to the meaning of morality and the possibility of repressing the sexual instinct by the exercise of will-power.

The majority of the men who defend sexual abstinence confine themselves to reprinting what other partisans of it have written on the subject. They call their opponents irreligious or unscientific or disingenuous. They do not even read their works in order to criticize them intelligently. On the contrary the physicians who doubt the possibility of living in abstinence without harming one's health base their conclusions upon cases they have observed in their own practice.

This is the only way in which a scientific man should collect evidence. There are many physicians, however, who refuse to listen to what their patients have to say, who tell them that sexual abstinence cannot harm them and prescribe cold baths, bromides and

more abstinence, besides of course advising them to seek the help of religion and to rely on their moral fortitude.

One of the reasons why physicians seldom mention abstinence as a cause of disease is that very few people abstain until their thirtieth or thirty-fifth year; and besides certain physicians seem unable to observe the obvious. Ten physicians may come and tell you that they have never noticed any bad effects from abstinence; what does that mean? It may simply mean that they have not been able to observe those effects or to examine their patients properly. But if one reliable physician who enjoys the confidence of his patients has noticed bad effects from abstinence his word should prevail against the word of the other ten.

Dr. L. Löwenfeld is frequently mentioned as an authority on the question of abstinence. While he pretends that abstinence never has any bad effects many of the cases he cites contradict flatly his statement. There is especially the case of a young man, a lay member of a religious order who was constantly tormented by sexual obsessions, could not see a woman without being thrown into violent excitation and was kept awake night after night by voluptuous visions, all this in spite of the hard outdoor work he was doing and of the meagre fare of the monastery. Löwenfeld himself advised him to give up the religious life and to get married. And yet Löwenfeld tells us that it was not abstinence that was almost driving him into insanity . . . . "He must have inherited a weak nervous system," this is all Löwenfeld gives us in the way of an explanation.

Elsewhere he tells us that "the harm caused by abstinence is not direct but indirect, as it is due mainly to the mental efforts made to control one's sensuality . . . . It causes intellectual exhaustion rather than spinal disease." Löwenfeld does not "deny that even for healthy individuals in no way burdened with a bad heredity, abstinence is hard to maintain." "But," he adds, (there is always a but in his statements) "the disorders it may cause are only of a transitory nature."

Dr. Joseph Mayer also contends that sexual abstinence cannot have any ill effects upon one's health and adds that sexual neurasthenia is due to an unbridled imagination; he will not excuse illicit coitus on any grounds, for "illicit coitus does not in any respect differ from masturbation; it has only one object, to produce voluptuous sensations and therefore is like masturbation, immoral and unnatural." "Complete abstinence," Dr. Mayer says

in conclusion, "not only from any illicit intercourse but from any obscene thoughts can only be beneficial to one's health and should be encouraged by everybody."

In a lecture delivered at a commencement exercise by Dr. Alfred Sternthal and which is being used as a tract by the German Society for Combating Venereal Disease, we read things like these: "History gives many examples of people who by remaining absolutely continent retained their mental and physical health until an advanced age" . . . . "when young men complain of depression, headache, fatigue, etc., following pollutions, it is simply because they have read or heard that those symptoms follow pollutions. They are generally young men who have indulged in the vice of self-defiling, in masturbation . . . . It is absurd and unscientific to state that coitus is healthy or abstinence unhealthy . . . . Far from being beneficial to the mind, coitus is a danger for it, for it makes one weak, dull and lazy . . . . Anyone can remain chaste without indulging in masturbation."

It all sounds very good and should be a source of great comfort to anxious mothers, young graduates and friends of youth; but it is all untrue.

History tells us of people who remained chaste and were very healthy . . . . What books of history did our author consult? And who are those people? Dr. Sternthal unfortunately fails to mention names. We find in the history of the Church mention, of course, of the names of many men who were continent; but what do we know about their health? And those people had rather cold natures and were given to philosophical and religious meditation. Besides, we know that many saints were tortured by evil spirits, and had to struggle against sinful temptations.

The fact that Catholic priests live in celibacy is often offered as evidence that the sexual urge can be repressed. But it has been said that some Catholic priests seek the gratification of desires which they are unable to repress. On the other hand, certain authors, for instance Hegar, say that such transgressions are very rare. Others like Lallemand and Moll remark that only people with weak sexual instincts enter the priesthood or that educational influences succeed in repressing completely the sexual urge in those who choose a religious life at an early age.

The majority of men, however, have either strong or average impulses and are not submitted to any educational influences. They live in the world and have no leaning towards religious medita-



tions; they seek the company of young women, have erotic feelings and desire persons of the opposite sex.

And then the sexual urge varies greatly with individuals; some have a weak, some have a strong sexual instinct; but in the majority of people that instinct is irrepressible, and religious or moral principles often fail to keep it in bondage.

Many physicians who minimize the dangers of masturbation make very bad advisers for young men. Gyurkovechki tells in his book on "Male Impotence" that one of his favorite teachers said once before a small group of students: "Masturbation indulged in with moderation has many advantages, especially for students; it enables them to save time and money, to shun bad associations and to avoid venereal infection."

Dr. Näcke, defending the possibility of abstinence, states that the libido can be satisfied by pollutions or masturbation when it becomes too strong. A dangerous doctrine to preach.

In normal coitus the two components of the sexual instinct, the detumescence instinct and the contractation instinct are fully satisfied when the ejaculation takes place. When ejaculation is brought about without the help of a woman's body, the second instinct, which is the strongest expression of love's craving, is left ungratified; this is why habitual onanists fail to have an erection when they attempt to perform the normal act of coitus.

There are two questions we must always consider when discussing the problem of abstinence: Is abstinence accompanied by masturbation? Does a man really abstain when his abstinence drives him to masturbation?

Abstinence accompanied by masturbation is not abstinence and it is perfectly ridiculous to ask whether abstinence is harmful in cases when self gratification takes the place of the forbidden coitus.

Propagandists of abstinence go on repeating that pollutions have no bad effects and are not in any way a morbid symptom. I would not go as far as to pretend that pollutions always are pathological in their nature; the majority of physicians and physiologists believe that certain pollutions are mere physiological manifestations; this is true of pollutions taking place say once or twice a month and followed by a feeling of exhilaration and a desire for activity.

But when they recur every week or even several times in one night and bring in their wake depression, headache, fatigue and

other nervous symptoms, they must be considered as pathological. I cannot see how physicians can declare that such symptoms are not dangerous; I say most emphatically that we should not confine ourselves to treating them by hydrotherapy, sports and other palliatives.

Pollutions can be diminished; they can even be made to stop entirely; but that does not mean that the health of the patient is not affected; sexual excitability can be so decreased that it ceases altogether and then we face impotence. The fact that pollutions cease may mean that the patient is suffering during the waking state from seminal losses unaccompanied by any pleasurable feeling and due to a relaxation of the sphincters of the seminal vesicles.

When the seminal sphincters become weakened the patient may feel comfortable for a while, as sperm no longer accumulates in the vesicles and flows through the seminal ducts; but this is soon followed by morbid symptoms, weariness, incapacity to work, melancholy and later on, impotence. All erotic thoughts vanish and with them the capacity to love; a man suffering from spermatorrhea and impotence cannot love any woman. What has become of the strength and the conjugal joys which abstinence propagandists had held out to the "pure" young man?

The only cure for pollutions and other ill effects of sexual abstinence is regular sexual intercourse. Nature demands it and physicians should prescribe it when all other means have failed. This is the attitude assumed by men like Dr. Max Marcuse, Dr. V. von Gyurkovecki and Dr. M. Porosz, all of whom have gone deeply into the question.

Physicians should, of course, when they advise patients to resort to intercourse, inform them of all the available means for the prevention of venereal diseases and of conception, some of which are practically infallible.

Physicians should, of course, when they advise patients to some of them, however, are perfect children in that matter; I know men who have specialized in obstetrics and yet have never seen a pessarium oclusivum; they would not know how to apply it, nor how to advise women as to its use.

Father Karl Jentsch, a Catholic priest, published in 1900 a remarkable book entitled "Sexual Ethics, Sexual Justice and Sexual Police" in which he takes a very firm stand against the Swedish physician Ribbing, the leader of the sexual rigorists of to-day.

“Sexual functions,” Father Jentsch writes, “have just as little to do with morality as the functions of nutrition. Consequently the gratification connected with them, or the desire for that gratification or the idea of it cannot be sinful. I do not call chastity the mere disuse of sex functions, but their use according to what the ancients called *castitas*, that is their regulation according to duty and reason. . . . Moderate gratification is not only harmless but necessary. Physicians are not agreed as to whether abstinence is directly harmful; but under normal conditions it is indirectly harmful for a normal man. It is not true as Ribbing asserts that in periods of abstinence nature supplies the proper relief. Many men (perhaps the majority of the men) who wish to avoid ‘sinning’ pay for their continence with their night’s rest, weeks at a time. . . . What fathers, public opinion, the government and the church should say to young men is this: Try as hard as you can to be abstinent before marriage. If you fail, do not consider yourself as an evil man or a confirmed sinner. Provided you do not become a wanton, you may accord yourself just enough gratification to regain your peace of mind and the composure and exhilaration necessary to carry on your work; but be sure to take all the measures of precaution recommended to you by physicians or experienced friends.”

In this article I have always spoken of abstinence with reference to men. But in the case of women abstinence is also apt to bring on serious trouble. Generally speaking, abstinence is more common among women than among men and more easily borne by women, for many more of them have what we call a “frigid nature.”

I have indeed observed cases of perfect health in women who seemed to live in abstinence, but we should not draw absolute conclusions from such cases for many single women and widows, apparently abstinent, indulge secretly in sexual intercourse.

We must not forget either that a woman’s organism may not reveal any disorders directly due to lack of sexual gratification but that other disorders may after careful examination be traced back to sexual abstinence.

The conclusion to which I have arrived from my numerous observations is that sexual abstinence may cause serious and dangerous diseases and may in some cases have actually fatal effects.

## THE RECIPROCAL RELATIONSHIP OF OBESITY AND SEXUALITY IN WOMAN\*

BY PROFESSOR E. HEINRICH KISCH, Vienna-Marienbad.

**P**HYSIOLOGICAL research as well as clinical experience confirm our belief that abnormal increase of adipose tissue in woman is often in direct relation to certain phenomena and changes taking place within the limits of her genital sphere.

Of the three main periods in woman's life, the first or menarche, characterized by the beginning of the menstrual activity and the awakening of the sexual instinct, and the last period known as menopause, characterized by a cessation of the menses and a gradual disappearance of the sexual powers, correspond to a strikingly general increase of adipose tissue, sometimes even to a pronounced development of obesity. But in the second sexual period of woman's life, the period known as the menacme, during which woman reaches the height of her sexual activity and during which she discharges the function of conception and procreation, one can also observe frequent and substantial changes in her adipose tissue. Those changes are due to various abnormal menstrual phenomena, pregnancy, puerperium and lactation.

From the age of fifteen to the age of twenty the girl traverses an important stage of her sexual development. Then we observe modifications of the ovaries with their Graafian follicles and of the appearance of the genital organs. At the time of puberty there is an increase in the panniculus adiposus of the skin and in the interstitial tissues of the muscles: this transforms the angular and awkward figure of the adolescent girl into soft, rounded, supple forms. The vulva, until then soft and hairless, fills out, acquires a firm, elastic consistency and a more defined outline. The breasts, until then flat, assume through the development of fatty tissue in the mammary glands the shape of rounded hemispheres, constitute an ornament for the body and a sexual attraction for the male. The fat which is developing in abundance in the subcutaneous tissue of the shoulders and hips gives the girl who attains the period of sexual maturity the undulating outline of the full figure.

When the woman has reached the height of her sexual activity, that is between her twentieth and her fortieth year, frequent mother-

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\* Zeitschrift f. Sexualwissenschaft.

hood, protracted nursing and also overindulgence in coitus act in individuals with a hereditary disposition as stimuli to a strong accumulation of fat in the organism. Women who have borne and nursed many children and also prostitutes who exploit their sexuality, are often characterized by a luxuriant development of the figure.

This accumulation of adipose tissue, which may verge on fatty degeneration, is especially noticeable in the breasts, the abdominal wall, the hips and the lower abdomen. It must be remarked when we compare the sexuality of man with that of woman that while woman is made fat and heavy by an increase in sexual activity, man is freed of all fat, and made thin and slender by frequent coitus. As the French saying goes "a good rooster is never fat."

During the menopause or climacteric, which takes place between forty and fifty, a period in which the sexual life of woman reaches gradually its natural conclusion, when as a symptom of that decline the menses become irregular and finally cease altogether, we observe a powerful increase of the body's fatty tissue. The adipose development of the body is then at its highest and even women who were quite thin all the rest of their life gain a great deal of flesh during the climacteric. The general appearance of the woman after her change of life is modified by this accretion of fat and the whole figure is spoilt by an appearance of over-femininity.

It is only the unrefined Oriental who finds any special delight in those exaggerated forms of feminine overmaturity, which also always seem to exert a special attraction on very young men.

The artificial climacteric due to ovariectomy brings about in the castrated an exaggerated accumulation of reserve fatty tissue.

The old belief that the removal of sexual glands favored a tendency towards obesity has been substantially confirmed by recent experimental research on the importance which the cessation of activity of those glands has as far as the fatty tissues of the body are concerned.

In this connection we may trace the development of woman's adipose tissue to many anatomical modifications, physiological and pathological processes taking place in the genitals which produce a disposition towards obesity. We cannot explain satisfactorily these facts, whose reality, however, we have ascertained. We must, therefore, fall back upon the explanation accepted by Virchow, upon what he calls the nutritive antagonism, and consider the



general increase of fat as corresponding to certain changes in the body's tissues.

Even the new theory of the internal secretion of the ovaries does not throw absolute light upon this subject, although it shows that the activity of the germinal glands has a marked influence upon the various tissue changes and the phenomena of nutrition.

We must not overlook the fact that females are more inclined to obesity than males. This is due not only to a predisposition which already expresses itself in childhood, but also and especially among women of a certain age, to the exaggerated consumption of foodstuffs in no way commensurate with what the body can burn up, dishes known as fat-producers, too many carbohydrates, farinaceous foods and sweetmeats. It is also due to the fact that women shun many sports which would supply the necessary exercise whereby the fat would be reduced and prevented from accumulating.

After discussing briefly the influence of woman's sexual life upon the development of her fatty tissue, we may now mention that marked obesity, whether acquired or hereditary, exerts a noticeable action upon woman's sexual organs and their activities. In the majority of cases which came under my observation, girls and young women suffering from fatty degeneration presented disturbances of the menstrual activities. The menstrual blood was altogether lacking or amenorrhea corresponded with the woman's increase in weight, or the menses diminished under the influence of lipomatosis, were scanty, light in color, or only appeared at greater intervals, for instance, every six or eight weeks instead of every four weeks, a condition which frequently led patients to assume that they were pregnant. On rare occasions I observed an excessive menstrual flow.

The percentage of sterility among fat women is noticeably high. While the proportion of sterile to fertile marriages is generally 1 to 10, or 1 to 9, I have observed in families where one or both of the mates were suffering from obesity that the percentage was 1 to 5, or even 1 to 4 counting in the families which have only one child.

Such a percentage of sterility should not surprise us when we bear in mind that besides the anomalies of menstruation already mentioned, very obese women suffer frequently from chronic metritis and endometritis, from displacement of the uterus or from a morbid condition of the vaginal or uterine secretions.

Another cause of sterility, which is not infrequently men-

tioned, is that owing to excessive fattening of the lower abdomen, that is the building up of large rolls of fat on the belly, thighs and exterior genital parts, coitus and impregnation are naturally rendered more difficult. Besides, very obese women are often frigid sexually; complete sexual indifference is sometimes observable in them, so that the response on their part during the coitus which would facilitate impregnation is totally lacking.

Hippocrates already mentioned that the excessively obese Scythian women were often sterile, while their female slaves became pregnant very soon after having intercourse with their masters.

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Translated for THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

### VIRULENT HEREDITARY SYPHILIS IN A CHILD BORN TWENTY YEARS AFTER THE MOTHER HAD BEEN INFECTED.

BY PROFESSOR GAUCHER, and Drs. BIZARD, BRALEZ and DECAMP.

With each year that passes syphilis loses its virulence for the patient, the accidents it provokes become rarer and rarer and it may be said that time is the best cure for syphilis.

The symptoms of hereditary syphilis, in particular, become less frequent and less severe as the initial stage of the infection in the parents antedates the child's conception by more and more years. Parental syphilis, the cause of so many accidents during the period of primary and secondary lesions, that is the first, second, third or fourth years, is also infinitely more noxious for the child at that period than at any other period and one of the main causes of infantile mortality. When more years elapse after the infection of the parents took place we observe a gradual decrease in the importance of hereditary accidents; syphilis, as some one remarked long ago, seems to exhaust its virulence on the first children.

We observe abortion in the first months of pregnancy, then premature childbirth, then birth at term of a macerated child. Then a child may be born alive though bearing secondary syphilitic lesions; the child born at a more advanced stage of the infection will be healthy in appearance and immunised against infection by his mother (law of Profeta); yet syphilis may reveal itself after several years of latency, sometimes after a considerable lapse of time, through lesions of the tertiary stage, as Fournier has demonstrated. Later yet one will observe only very attenuated symptoms of hereditary syphilis: quaternary or para-

syphilitic lesions, quintary or dystrophic lesions. (Gaucher).

It often happens, very fortunately, that syphilitic subjects bear perfectly strong and healthy children, exempt at birth and in after life from all lesions or any specific taint.

While this decrease in the virulence of hereditary syphilis is the general rule, it cannot be considered as an absolute certainty. Syphilis may exist in the parents in a latent state and regain its virulence sufficiently to taint the child even after a great many years.

Dr. Giraud, in a well documented book<sup>1</sup> cites a great many cases proving that women who contracted syphilis many years before becoming mothers but at the time when the observations were made were perfectly healthy and considered as entirely cured, may bear children who present the lesions characteristic of virulent syphilis (erosive syphilides, papules); in the majority of Giraud's cases virulent lesions had been observed in the mother three or four years before the child's birth; in a few cases only the mother's infection preceded the child's birth by twelve years; in one case a newborn child presented secondary lesions although his mother had been free from any syphilitic manifestations for seventeen years.

In a case we recently observed, and which we are going to report in detail, the syphilitic infection of the mother had taken place even longer before the birth of the child, exactly twenty years before: yet the newborn child presented the lesions of virulent and hence contagious syphilis.

The woman in this case was thirty-nine years old and had come to the dispensary of the Hospital Saint Louis to consult us about her child; she herself had been entered in the hospital's register of cases some seven years ago.

The woman contracted syphilis twenty years ago. As happens frequently in the case of women, the initial symptom had been overlooked and the disease, revealed only by a few mucous patches of the vulva was diagnosed by Dr. Fournier, who prescribed pills and iodide of potassium.

Following the sexual contacts which infected her, the woman bore a child which at the age of six died from meningitis, probably of syphilitic origin, after presenting lesions of the skin and of the mucosae. After a year's treatment (pills) the mother's symptoms disappeared and she married. She gave birth to a sec-

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<sup>1</sup> A. Giraud. Congenital hereditary syphilis and the spirocheta pallida of Schaudinn. A thesis for the doctorate. Paris, 1909.

ond child, a girl, who is eleven years old and presents symptoms of dystrophy (her incisors are separated, brittle, nicked and osseous in appearance). She has been examined and treated at the dispensary, where her case has been followed up and kept on record.

The woman's first husband died of pleurisy and she married three years ago a perfectly healthy man, himself a widower and the father of a seventeen year old son of robust constitution. From this second marriage was born the child on account of whom she consulted us.

Born after regular gestation the child presented forty days after its birth lesions which were undoubtedly of syphilitic nature; mucous patches on the upper lip with fissures of the right corner of the mouth, papulo-erosive syphilides of the serotum, pemphigoid vesicles on the right foot.

Inunctions with mercurial ointment were prescribed but while the lesions became attenuated and disappeared, the child became rapidly emaciated and died four weeks later.

It is indisputable that we had to deal with virulent syphilis in a child infected by its mother during pregnancy although the infection of the mother had taken place twenty years before and had not caused any specific trouble in so many years. Under such circumstances the appearance of virulent phenomena in the infant is a most exceptional case, unique we believe in medical literature.

This case would prove that the spirocheta can survive very long in a latent state in the mother's organism and acquire for reasons that we are not in a position to determine a renewed virulence in the fetus.

Besides showing the length of time during which syphilis may remain latent, this case seems to us of especial interest on account of its bearing upon syphilitic heredity.

The most virulent and the most dangerous form of hereditary syphilis is that which is transmitted by the mother. Fournier has shown that what he calls the noëve index is only 37% in syphilis transmitted by the father alone against 84% in syphilis transmitted by the mother alone.

The present case confirms that statement, for we have here an infection transmitted by the mother exclusively and capable after twenty years of causing in an infant secondary syphilitic

lesions; this is added evidence that maternal syphilitic heredity is syphilitic heredity at its worst.

On the other hand, our patient had been treated. It is true that she had not taken any treatment during her last pregnancy, but she had in previous years taken several treatments of pills. That treatment had sufficed to prevent the recurrence of any symptoms in the mother for twenty years, but couldn't protect the child from virulent lesions; this proves that a syphilitic can never consider himself cured as far as the results of procreation are concerned.

It is imperative then to treat every syphilitic woman during every new pregnancy even if she hasn't had any lesions for a long time, even if she had previously taken specific treatment. The sooner this new treatment begins after pregnancy has been diagnosed the more efficacious it will be.

Let us notice also that syphilis in the child only revealed itself six weeks after birth, as is frequently the case.

The conclusion is that even when the syphilitic infection dates as many years back at it did in this case, the child must be either nursed by the mother or if this is not possible brought up on the bottle; the child of a syphilitic mother, however old the mother's disease may be, should never be entrusted to a wet nurse.

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Translated for THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## CHANCROIDAL BUBOES WITHOUT CHANCROID.

BY H. GOUGEROT.

The existence of chancroidal buboes (that is, suppurative adenitis due to the Ducrey bacillus) without chancroid (that is, without a clinically visible portal of entry) is of especial practical importance because it is still contested and may be the occasion of errors in diagnosis. The demonstration of this condition rests on clinical observations and on bacteriologic examinations.

Clinically there may be all stages of transition between buboes with chancroidal portals of entry and buboes without chancroids—so-called primitive or primary adenitis. It is not uncommon to see patients with active buboes in whom the chancroids were short-lived and were already cicatrized. The author has published such a case of "late chancroidal bubo." There are also instances in which the soft sore was small and ephemeral, but where the adenitis



was severe. In such cases a very painstaking examination of the genitalia, anus, perineum, thighs and pubes, may be necessary before the lesion is discovered. Finally there are patients who have no recollection of a sore. Nevertheless examination reveals a cicatrix of the portal of entry. It is therefore only necessary to imagine the chancres smaller and smaller and more and more ephemeral in order to get the conception of a bubo without a chancre. It is even possible that the bacillus of Ducrey may penetrate the mucosa without a visible solution of continuity just as the tubercle bacillus may pierce the intestinal mucosa without causing a lesion at the point of entry.

A typical case is the following: The patient presented a bubo of the right inguinal region which had been developing for the past month. There was no history of a sore, and a thorough examination failed to reveal any portal of entry. Absence of a discharge ruled out the possibility of an intra-urethral chancroid. Bacteriologic examination of the fluid obtained on puncturing the bubo revealed the presence of the Ducrey bacillus. In this case the Wassermann reaction was positive and the possibility must be considered of a simultaneous inoculation with the spirocheta pallida. The author has seen four cases similar to the above, in three of which the Wassermann was also positive.

The symptomatology of these chancre-less buboes presents nothing characteristic. In general the diagnosis is simple. They should be distinguished from adenitis caused by the pyogenic cocci by the more acute course of the latter, and from tuberculous adenitis because this is more indolent and chronic. Mycotic and syphilitic adenitis may be a rare cause of confusion.

Bacteriologic examinations of the pus should be made wherever possible. As a rule, it suffices to make smears and stain them with methylene blue and with Gram. The Ducrey bacillus is Gram negative and appears as small rods more strongly colored at their extremities. Occasionally the pus does not contain any organisms and these can only be found after scraping the abscess walls. If smears are negative the organism may be demonstrated by autoculture of the pus or by inoculating some of the pus on the blood-gelose media of Besançon, Griffon and Lesourd. In some cases the bacillus can be shown neither in smears nor in cultures. It is important to remember this because bubonic pus, which appears sterile, is most often due to the soft chancre bacillus.

The prognosis is good except where a phagedenic tendency

is manifest. But in all cases an associated syphilis must be thought of.

Such are the facts in regard to chancroidal buboes without chancre. From the didactic point of view they teach us that the Ducey bacillus may traverse the mucosa without leaving any trace of its passage. Practically, we learn that syphilis should never be overlooked as a possible associated condition. Finally such buboes may undoubtedly explain certain phagedenic ulcerations which do not seem to have a venereal origin.

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### ABSTRACTS.

#### PROSTATIC CALCULUS IN A BOY OF TEN.

Dr. Francis Huber reports (*N. Y. Med. Jour.*) a case of cystin calculus in a boy of ten. Five years before an egg-shaped cystin calculus of 1.22 gram weight had been removed by perineal incision from the prostatic urethra, where it had become impacted and acted as a ball valve, causing distention of the bladder, frequency, painful urination, and dribbling. The stone probably had its origin in the kidney and was washed down. He now presented himself a second time, five years later, with the statement that three days before he was taken with acute retention of urine and relieved by catheter. Urine was amber in color, with a slight sediment, specific gravity 1018 to 1020, acid, marked traces of albumin, numerous pus cells, few epithelial cells, otherwise negative.

Examination with a Little searcher revealed a stone in the region of the prostate. In the necessary manipulations the stone was displaced and carried upward a short distance into the urethra. As it could not be extruded nor removed by means of small forceps, the boy was put under anesthesia and the stone easily taken out through an external urethrotomy incision. The calculus was of the same general composition as the first removed in 1905. It was one half by one quarter inch, smooth, except at one end, as if a small piece had been broken off. He had complained of some pain over the right kidney region, and though slight tenderness was evident upon deep pressure, nothing was discovered upon x ray examination.

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#### A SIGN OF LATENT SYPHILIS IN NASAL OPERATIONS.

Dr. Irving Wilson Voorhees calls attention (*N. Y. Med. Jour.*) to a sign by which latent syphilis may be detected by phy-

sicians doing operations on the nose. In performing submucous resection of the nasal septum on known syphilitic subjects, he has frequently been struck by the difficulty in starting the mucoperichondrium when beginning elevation at the line of incision, and believes that this is due to a productive inflammation in the perichondrium and periosteum. Whatever the explanation, he has been able in three cases to make while doing this operation a diagnosis of latent syphilis, afterwards strongly corroborated by the Wassermann test. In each case it was difficult to start the elevation, there was more bleeding than should occur with good technique, the blood seemed darker, and the cartilage and bone both had a rough, uneven feel. This latter point the author considers of great importance and he recommends examining with the finger all pieces of bone removed by intranasal surgery.

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#### GONORRHEA COMPLICATED BY NARROW MEATUS.

Dr. M. Zigler reports a case (*N. Y. Med. Jour.*) with unusually severe complications due to a congenitally narrow meatus. One week after the onset of the infection the patient began to suffer from fever, headache and anorexia, followed at night by a real chill with subsequent profuse perspiration. The patient noticed that for forty-eight hours preceding, the discharge from the urethra had ceased except at such times as he, by milking the urethra, succeeded in dislodging a thick greenish white pus cast, one inch in length, similar in shape to that of the urethral canal. Examination showed that he had a meatus of the diameter of 8 to 10 French, with no pus at the meatus. On milking the urethra, a pus cast was obtained, similar to the one described by the patient. Both first and second urines were loaded with pus.

At this time, the author was not sure whether there was any relation between his septic symptoms and the narrow meatus complicating his acute gonorrhoea, but felt that if such was the case, drainage would finally establish itself, as he had seen other cases of gonorrhoea in a narrow meatus finally adjust themselves to this congenital condition. The patient, who was a strong well developed man, continued at his work with the fever symptoms described for a period of about ten days. On this day he was so feverish and prostrated that he remained at home and in bed. His family physician examined him for some intercurrent affection, but physical examination was negative. After forty-eight hours rest in bed, he returned to work feeling somewhat better, but still feverish

and complaining of sweats at night. About a week later he was again obliged to go to bed, and remained at home for about fourteen days, with temperature ranging from 100.5 to 102° F., with increased rapidity of pulse, sweating, etc. Both the malarial smear and the Widal test were negative.

At the end of a fortnight, the patient returned to work, his temperature being normal; pulse slightly above normal; and general symptoms of weakness and sweating still present. A meatotomy was now performed. Within twenty-four hours his symptoms entirely cleared up; there was no longer any fever, sweats, headache, etc., but there was a marked increase in the amount of urethral discharge.

From this date, for a period of five weeks, the patient felt absolutely well, with the exception of his discharge. He then suddenly had pain in the region of the right Poupert's ligament. This was promptly followed by swelling and redness over an area one and a half inch long and one inch wide. This area was exquisitely painful and gradually increased downward until it involved the upper third of the right thigh. After twelve days this phlebitis began to spread upward on the abdomen to the opposite side and down the left thigh. During this time he also manifested a right sided epididymitis. The infiltrated veins in the inflamed area could be distinctly felt, and after the acute inflammation had subsided stood out very prominently in bluish, cordlike masses. Rest in bed with wet dressings and ice-bags having no effect, vaccine therapy was decided upon. After five injections of vaccine over a period of two weeks (beginning with 100,000,000 gonococci and 80,000,000 staphylococci, and rising to 500,000,000 gonococci and 400,000,000 staphylococci) the inflammation was gone, although the phlebitic area was still infiltrated and slightly tender. Within one week, as there had been no reaction and no recurrence, the patient was allowed to resume his work, and there has since been no return.

Within twelve to twenty-four hours after each injection of vaccine there was an increase of pain at the edge of the phlebitis, and a pus-shower in the urine, which had been pus-free for about a fortnight, only to become clear again within forty-eight hours, and cloudy with pus once again upon the readministration of vaccine. These reactions, focal in nature, might in a vague case of gonorrhoeal phlebitis be considered of diagnostic value. As this report is based upon a single case of phlebitis treated by

mixed vaccines, the author does not feel justified in drawing definite conclusions; but in view of the fact that the treatment of gonorrhoeal phlebitis is symptomatic, plus rest, one is justified in trying mixed gonorrhoeal vaccines in conjunction with the usual methods of treatment.

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#### THE LUTIN REACTION AND POTASSIUM IODIDE.

DR. J. W. SHERRICK, (*J. A. M. A.*,) calls attention to the fact that administration of potassium iodide will produce a positive luetin reaction in nonsyphilitic individuals, making the test utterly unreliable where this drug has been administered. The period elapsing between the injections of the luetin material and the injection of potassium iodide may vary widely with still positive results. In one case with a negative luetin result, potassium iodide was given in small doses about two months later and the old seat of the test immediately developed an areola with a firm red central nodule. The potassium iodide was discontinued and the nodule disappeared, not going on to the pustular stage. A reaction similar to the luetin can be obtained by intradermal injection of other substances such as agar, starch, etc., and the administration of potassium iodide. Agar gives a more intense response than the luetin, and this has been obtained by administering the iodide about four weeks after injection of the agar. Other drugs which contain iodine, such as thyroid extract, will develop a similar reaction, but painting the lesion with iodine does not give the reaction.

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#### URINARY NEUROSES IN THE WAR.

Legueu reports (*Medical Press*) a number of cases of incontinence among soldiers who had not been wounded. He divides them into two groups, the first being those in whom the disturbance of micturition is consequent upon an organic lesion, namely stricture, which had existed previous to the war but had become progressively tighter as the campaign proceeded, especially with the cold and damp of the winter months. But by far the greater number presented no physical lesion, the incontinence being purely functional and dependent upon physical causes. It is the direct outcome of the nerve strain inflicted by the conditions of active warfare in predisposed subjects. This is manifested in one of two ways—*viz.*, paralysis or irritability of the bladder; but in both cases urinary incontinence is the only tangible symptom.



There are cases of incontinence due to paralysis of the bladder, as observed in soldiers who were seized with retention of urine during a battle. When the retention was complete recourse was had to the catheter for a day or two, after which micturition again became normal; but sometimes when catheterism is stopped the incontinence returns. What has happened is probably that the retention, from being complete, as it was to begin with, is now incomplete, and the bladder, after micturition, retains from 200 to 400 grammes of urine. The incontinence in this case is persistent night and day. Or the stage of complete retention is absent, it being incomplete from the onset, in which case we get incontinence forthwith.

The initial retention supervened, following a powerful emotion, as, for instance, when a comrade is killed at one's side, or consequent upon some trivial wound in the genito-urinary area.

This vesical paralysis following nervous shock is purely psychical. It belongs to the same category as the cases of retention we see in civil practice after operations for appendicitis, hernia, and varicocele. The peculiarity here is that the retention may be incomplete *ab origine*, and so may escape notice, leading us to suppose that the incontinence by which it manifests itself is the principal syndrome. Patients afflicted with this incontinence must necessarily remain in hospital as long as required for re-education and systematic catheterisation to achieve their cure.

But cases of incontinence consequent upon irritability of the bladder constitute the majority. The psychical disturbance which, in one set of cases, determines paralysis of the bladder, in others causes irritability, as shown by pollakiuria, that is to say, frequent calls to pass water day and night.

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#### INTRASPINAL TREATMENT OF NERVOUS SYPHILIS.

H. F. SWIFT, (*J. A. M. A.*) discusses the subject of the therapy of syphilis of the central nervous system, referring to the work of Ellis and himself, and reviews the work that has been done by others in treating the disease by subarachnoid injections. The objections to intraspinal therapy that have been raised within the last year are frankly stated. He admits that the use of neosalvarsan by this method has been followed by inconvenient and even dangerous sequelae, and that it should be used, if at all, with the greatest caution. While it is clear that the intravenous injections of salvarsan have been of great benefit, there are cer-

tain cases resistant to this method which yield when the intraspinal therapy is instituted. The literature is full of such instances. Although the technique is more difficult than that of the intravenous method, the difficulty is not insurmountable and only occasionally is it so painful as to render the treatment impossible. The inconvenient accidents are not frequent enough when salvarsan is used in this way to cause the method to be discarded. While the choroid plexus has been shown to be relatively impermeable for most inorganic substances, it has been shown that at least a small amount of salvarsan is often present and the objection that the serum is useless because of the low salvarsan content, seems invalid.

“Autosalvarsanized serum” alone has been followed by marked clinical improvement. Its action may be due to one of several factors. 1. The serum is spirocheticidal. 2. It may contain specific antibodies. 3. The local irritation may increase the permeability of the meninges. 4. The acute irritation it produces may have a beneficial effect on the chronic inflammatory process. 5. The normal serum may contain substances which, brought into contact with the syphilitic exudate, cause it to resolve. The spirocheticidal effect has been demonstrated by Swift and Ellis, and, although the syphilitic antibodies are not directly demonstrable, it is reasonable to suppose they exist. The acute local irritation has been shown not to increase the permeability for salvarsan which is circulating in the blood, but the beneficial effect of acute congestion on acute inflammatory processes is a well-known theory on which Bier's hyperemic treatment is founded. The improvement following the injections of normal serum in psoriasis and other skin diseases suggest that the fifth hypothetical factor may be correct, and on the whole the use of serum as a vehicle for spirocheticidal substances seems to have a rational basis. Not all patients with syphilis of the nervous system require intraspinal treatment. Many of them respond well to intravenous treatment, combined with mercury and iodide properly administered, but in other cases in which these means fail, the addition of intraspinal therapy is believed to be of value. The treatment, while systematic, should not be so rigid that individual indications should be disregarded. All the factors have to be considered to give a consistent and beneficial result.

## CHRONIC CHANCROIDAL BUBOES.

BY H. GOUGEROT.

The great majority of buboes following soft chancres have a rather short, acute or subacute course. Occasionally however they persist for months and become chronic chancroidal buboes. The diagnosis should be made only on bacteriologic evidence as the tubercle bacillus, various pyogenic organisms, moulds, and the spirocheta pallida may occasionally give rise to this condition. Such buboes may be described under four forms as follows:

1. *Chronic, fistulous, tuberculoid.* This is the most common variety. The adenitis is characterized by a persistence of fistulae. These resist treatment, or apparently heal and then recur. They ooze, suppurate, and close in turn. This chronicity may suggest syphilis, but specific treatment is inefficacious. A similar confusion may arise with tuberculosis.

2. *Cold, indurated, non-ulcerating, tuberculoid.* This type is more frequently encountered and presents two stages. There is first an acute period of suppuration and ulceration with perhaps fistula formation. The process then seems to resolve; the skin cicatrizes and assumes a normal aspect. There now remain large, firm, indolent, or slightly sensitive glands. Suppuration does not recur. The adenitis persists for months and resembles the tuberculous variety.

3. *Elephantiasic form.* In these cases the fistulization persists, the inguinal glands become matted together, the skin forms a thick sheet interrupted by occasional retractions. The integument is pierced by numerous narrow, suppurating, fistulae.

The pathology of this elephantiasic reaction may be as complex as that of the streptococcic elephantiasis of the extremities. There is inflammatory sclerosis and fibroid infiltration of the meshes of the connective tissue leading to stricture and to obliteration of the lymphatic spaces and vessels; next there is edema (stasis) in addition to the infiltration and even lesions of the afferent vessels to the glands (peradenitis) and perhaps of the efferent vessels. In certain cases intraglandular lesions may add to these different extra glandular causes to bring about an arrest of the local lymphatic circulation.

4. *Phagedenic form.* A benign soft chancre, rapidly cured in itself, may give rise to an extremely serious adenitis which becomes phagedenic. This phagedenism may persist for months

or years, resisting all treatment. The author has published two such cases. The first was lost track of. The second died of an intercurrent infection after running a course of five years despite every therapeutic effort. Rabello has reported a case of a man of 40 who, 24 years ago, had a soft chancre followed by a right inguinal bubo and who ever since has presented a chancroidal phagedenism. The ulceration, which began at the bubo had involved the trunk and the sacral region rising as high as the left shoulder, and descending as far as the upper third of the left thigh.

Such are the various forms which chronic chancroidal buboes may assume. It is important to be familiar with these facts because otherwise the special nature of these adenitides may not be recognized since we are accustomed to believe that the Ducrey bacillus produces only acute or subacute glandular inflammation. Similarly we may think of tuberculosis, which to be sure, is the most common cause of chronic indurated or fistulous adenitis, or even of mycoses or of syphilis, but the possibility of chronic chancroidal buboes is rarely mentioned.

The above facts show that the Ducrey bacillus may lie dormant for weeks in glands without causing lesions: now it is destroyed, now it brings about a late adenitis. In other words it may become a latent saprophyte and it therefore follows that individuals affected with soft chancres should be kept under observation for a longer period than has been customary in the past.

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### SYPHILITIC SUPPURATIVE ADENITIS.

By H. GOUGEROT AND P. DA SILVA DE RIO BRANCO.

Suppurative adenitis of syphilitic origin is relatively rare and the diagnosis of the condition is so easy to miss that it is well worth while to report the following:

The patient, 22 years of age, contracted several syphilitic lesions of the penis. After the usual interval a swelling appeared in the right groin. Examination made on Dec. 10, 1913, revealed a firm, tense, swelling the size of a cherry, without much inflammatory involvement of the surrounding skin. The only discoverable cause of this subacute adenitis was the presence of a few small dried and ulcerated herpetic vesicles of the balano-preputial sulcus. The diagnosis of herpes with ganglionic involvement was made, a

good prognosis given, and local treatment with powders and ointments instituted.

During the next five days the adenitis increased in size, assumed the size of a nut, became more inflamed and painful. Finally it broke down as did several vesicles about it. Smears of the pus were made but nothing was found: no Ducrey bacillus, no cocci. Examination with the ultra microscope was also negative as were cultures on ordinary and on blood gelose media.

By the end of December the small ulcerations began to heal but the adenitis kept on discharging, now a cloudy fluid, now a clear one and this kept on the whole month of January despite all treatment. By the end of the month there appeared crusted papules of the hairy scalp, a tumefaction of the post-auricular glands, and intense nocturnal headaches. There were no other signs of syphilis: no roseola, no mucous patches, no micropolyadenopathy. Nevertheless the diagnosis was plain and the Wassermann reaction was positive.

What, then, was the nature of the adenitis? At this stage (beginning of February) the gland was the size of a nut, firm, painful, the overlying skin was ulcerated, red, adherent, and there was a moderate seropurulent discharge which was apparently sterile. The adenitis could not be of post-herpetic origin because of the sterile discharge and the long duration. It was not chancreoid because of the absence of the Ducrey bacillus. It was not a mycosis because of the negative cultures on sugar media. On the other hand the course was too acute for a tuberculous adenitis.

The diagnosis of syphilis could be proven only by the result of treatment. Accordingly the patient was put on mercurial unguents, iodine, and hectine. The headache disappeared in a week, the gland healed in two weeks, the crusted papules of the scalp in a little over three weeks.

In short, therefore, in the presence of a subacute or even an acute inguinal adenitis, it is not enough to think of soft chancre and of non-specific ulcerations. It is necessary to consider tuberculosis, mycosis, and even syphilis, and in cases of doubt to perform the proper bacteriologic and even therapeutic tests.



# THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

NOVEMBER, 1915.

No. 11.

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Contributed to the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## THE FEMALE SEX INSTINCT IN ITS RELATION TO OUR MORALITY.

BY LEO M. GARTMAN, M.D.

WHEN a man begins to choose a bride he looks, as a rule, for an angel, and selects the one whom he considers in all respects qualified to be an angel.

The attributes of an angel are the following: angelic beauty, of course; a quiet amiable, submissive character (the man considers himself so much above the woman that even the angels are to be submissive to his will); she does not eat, she nibbles at her angelic food like a birdie; she does not walk, she flits along with invisible steps; but above all, angels are absolutely devoid of a sex instinct; not only does the man expect his angel to be entirely free from a sex instinct, but he presupposes no knowledge, not the slightest idea of what the relations of the sexes consist in. She is supposed to be in love with him, but this love should be of a *pure* (?) sexless character—a love which does not exist. Any knowledge of the sex relation would remove from her the halo of holiness, regardless of the real human qualities she may possess. The gentleman himself has received his thorough instruction on the subject from some other charitable female; he had indulged already in the strong drink of sexual passion, he paid for all possible forcible excitation of his sexual passion; he prefers the “peach” Blanche, the “Devil” of an Italian Rosa, to the pale-faced Lillian; in fact he prefers the bright red rose to the white rose. But his wife to be must be a colorless pale blossom, that never attracted a bee.

Once married, a profound change takes place, and this change demonstrates the difference between our ideals and reality. If the man finds his wife a real angel, really without a sex instinct, he be-

comes highly indignant, indeed furious; what pleasure is there to have a piece of ice for a mate. He sends her to a physician and if no speedy improvement results he returns to his old friend the "Italian Rosa," who for pay will exhibit plenty of fire.

If, on the contrary, he discovers that she has a sex instinct, and that her instinct is stronger than his, and that she demands from him more than he is able to supply, then, of course, he is disagreeably shocked; how dare a wife put forth demands, which He, the Man, the ornament and strength of all living, cannot supply and must acknowledge himself beaten. Why? This is immorality! sensuality! etc.

The man thinks that he only has a sex instinct, and expects his wife, without a sex instinct, to be sufficiently pliable to satisfy his requirements completely, no less and, above all, no more; just made to order like a tailor-made garment.

And still you cannot blame the man at all for his ignorance, it is the ignorance of the whole civilized human race. I said the ignorance of civilized humanity, because among the lower races of humanity this ignorance does not exist. Among the ignorant, uncultured peoples, the question of the relation of the sexes is not a secret, and boys and girls alike, at the age of puberty, in their small curriculum of instruction, receive a complete course of instruction in sexology, and midwifery. In fact, next to the secrets of war, and obtaining of nourishment, the relations of the sexes form the most important subject of instruction. For these people there are no secrets, no false ideals, and no disappointments.

On the contrary in civilized countries the ignorance of sex matters is absolute. Not only does the young man think of his wife-to-be as an angel, but her parents who passed already through the same stages of disappointment before him, also claim and think that their daughter is an angel. She herself, though knowing well that she is not inclined to be an angel, will play her part, the part of an angel, so skillfully that all around her will be deceived; therefore every now and then you will find scientific observers who claim that a great part of the female race are angels. A childish delusion!

We will take up the study of the female sex instinct not only among civilized races, but we will examine the female sex instinct in the whole human race, civilized, uncivilized, Christian and heathen.

Fundamentally there is no difference between the male and female sex instinct; if unsatisfied, the female pays the same penalties as the male and often more than the male.

All living beings are ruled by two fundamental instincts: the instinct of self-preservation and the instinct of self-perpetuation. These two instincts operate alike on both sexes. Both sexes eat; and the punishment for not being able to comply with that requirement is death.

Both sexes have the instinct of self-perpetuation, and disobedience is punished by the absence of offspring. The suffering from food hunger and from sex hunger are alike, except in their quality. Alike for both sexes. It seems to me that the punishment meted out by absence of offspring is more severe, because more lasting. The absence of offspring is in itself a severe punishment, because it is in the character of all living creatures to desire offspring, but especially so in the female. Every one who has witnessed the sufferings of the childless female, will have noticed that they are willing to undergo privation, or a painful and even serious operation to be able to have a child. Frequently when a woman finds out that her husband is at fault, she will submit once or a few times to have intercourse with another man, just to have a child of her own; and I have seen husbands who induced the women to do so.

The sex instinct itself, regardless of offspring, must also be satisfied; and therefore it is a mistaken conception that a woman can more easily remain a celibate than a man. If the female cannot satisfy her sex hunger in a normal way, she will, like the male, satisfy her craving in an artificial way; the different forms of masturbation are just as prevalent among females as among males. The females try to prevent rupture of the hymen, and necessity makes them invent different forms of satisfying their sexual hunger. Neither do they have to be instructed by others, but they invent these different forms of satisfaction, like many boys do.

The nervous sufferings of females from not satisfying their sexual hunger properly are by far the most distressing. One could write extensively on this subject, notwithstanding the difficulties one encounters in its investigation. Frequently patients call to consult a physician on the subject, and the patients themselves have to be led by questions until one can reach to the real causes of their troubles. One who does not know it, will frequently miss the whole question. And I can say that sexual hunger is

responsible for a great variety of nervous diseases of supposed obscure character; seemingly causeless irritability, restlessness, unkindness and even cruelty. Many of these troubles disappear after complete satisfaction, and a state of health follows, but in many other instances the damage to the nervous system is so profound that complete recovery cannot be expected.

The female sex instinct, like the male instinct, may be classified as strong, moderate, absent and inverted. All these varieties may be found in the females of one or another race, but still there are races where the females as a whole are sexually weak, and in others they are strong. The sexually weakest *female* I consider the Lithuanian and North German, and among them are found many frigid women. The females of Southern Europe are sexually stronger and among them are found only a few frigid females. The Jewish woman possesses a still stronger reproductive instinct, but still I meet among them every now and then frigid women. The negro woman is still stronger sexually, and so far I have not met yet a frigid negro female. The Chinese and Japanese females are still of a higher type. The Hindoo woman is still more sexed, and to such an extent that there does not exist (I think) a white male able to satisfy her. The highest sexual development is reached in the Egyptian woman, so much so that even the Egyptian male, who belongs to the sexually strongest males on the globe, finds difficulty in satisfying her. From the point of view of our morality they are the most immoral, the most abandoned women on earth, but it seems that natural instincts do not jibe well with our morality.

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The difference in the sex instincts of the male and female is a matter of function and is related to the ends each have in view, however blindly. The function of the male is to impregnate and he is pushed to the performance of this act by a strong blind force. Periodicity is absent. The course of his desire is well nigh uniform. On the other hand the female has to be impregnated, carry and later nurse the child. The future of the race depends upon the success of this whole process. Though passive (apparently) in the act of copulation, the woman becomes active from the time of conception until the child is able to take solid nourishment. Her activity, even later, expresses itself in her love for the offspring.

Let us take a look at the differences of the reproductive instincts of the male and female. The normal human sex instinct manifests itself in three separate phases: the introduction to the copulative act, kissing and embracing; the reproductive act itself; and the desire for offspring. In men the first phase is not always very pronounced. Many men go to their wives without any love making. In the great majority of cases the thought of children plays no part in the copulative act of men. The male is driven to the sex act because he cannot control the force that urges him. Whether his sex instinct is weak or strong makes little difference. The question of children only occurs to him at the time when he is free from sexual excitement. It is only in repose, not in the act of coition, that this mood comes to him. To the male therefore, the ordinary prostitute may serve and often does serve as a means of complete sexual gratification.

With the female sex it is quite different. In most cases the female demands and feels all three phases of the sex instinct. She desires to be embraced and kissed, and very often without this the sex act is not satisfactory to her. She thinks, she cannot help thinking, of the time when she will have offspring, and of course the reproductive act itself plays the prominent part. Of course there are exceptions in which the female is characterized by an absence of any one of these phases, but not frequently. There are women who are afraid to become mothers, some who do not care for kisses, and still others who abhor the act of copulation, but all these are exceptional cases.

I have heard women say: "I love my children, because I love my husband and it is his love that takes precedence. Without it, I do not think I could love our children so well. Of course the act of copulation is the most important part, but without the preliminaries, the close embracing and love-making, I do not think I would enjoy it so much." Thus speaks an honest woman, healthy in body and mind, a mother of a large progeny. She is candid, she has no reason to deceive any one.

The difference in regard to sex functions depends on menstruation, pregnancy, and lactation. Menstruation increases the sex feeling in all females, not only among humans but among all females where its equivalent exists. During two days prior to menstruation and during menstruation the female sex instinct increases in strength. During pregnancy the sex instinct of the



sexually weak woman diminishes or disappears; in the sexually strong woman it persists during the whole nine months. But I cannot see that it has any significance, and it may be only due to the freedom people permit themselves during pregnancy. Before the woman became pregnant measures were taken to prevent conception, and both husband and wife were half-starved. It is when pregnancy is an established fact that measures are no longer taken to prevent conception. This feeling of safety causes all taboos to disappear and the pair forget the days of starvation.

During lactation the sex feeling in the female is diminished, or, more correctly speaking, assumes a new character. I have often heard women say that the first time the infant takes the breast in its mouth all previous sufferings are forgotten. Questioning the women what kind of a sensation this produces in them, I found some willing to explain it; and the consensus of their statement is that nursing the child is akin to strong sexual relations, and indeed satisfies their sexual desires more than the real act could satisfy them. Acting on these statements, I followed up this question and have found it more or less universal. For instance among many nations when a woman gives birth to a child she leaves her husband's hut and retires to her own. The husband in the meantime buys another wife. The mother nurses the infant for two, three and even four years and during all this time she is forbidden to cohabit with her husband. I have followed the literature on this subject to see if I could find many cases of women during this time having illegal relations with other men. The cases were found to be rare and exceptional. Even the missionaries, who are ever ready to condemn every non-Christian institution, rarely find fault in this case. This, in the absence of moral prohibition, strengthens my idea that lactation and nursing is to the female the equivalent of normal sexual relations. But it is of great import. Another pregnancy would deprive the child of its mother's milk. And as this could not be replaced, especially in countries where infant foods are unknown, by constant lactation for two or three years, the female thus insures the life of her child.

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As I have said already, the sex instinct of the female may be classified as strong, moderate, absent and inverted. A male without a sex instinct, or with a very weak one, seldom takes a wife, unless he does so for purely social or political reasons. A female without

a sex instinct often does marry, because though not having any sexual desire, she may still have a strong love for offspring. In this case it is a purely feminine reason and cannot and does not act in the case of man. Once her desire for children has been satisfied she has little or no use for her husband, and the act of coition becomes still more repugnant to her. One case I know of reveals a condition which resulted in the woman answering her husband: "Here is a dollar, and go!" The woman did this in face of the fact that her moral code was being violated, and her children were sadly in need of the money to give them added nourishment. In another family where the dollar had little or no value, the wife said to her husband: "Do with yourself as you wish, but do not make a fool of yourself or create a scandal." In still another case the wife gave her husband perfect liberty and he enjoyed her confidence to such an extent that he related to her all his love affairs and experiences. She would grieve with him in his failures and share with him the joys of his successes. This class of women seldom have any desire to satisfy themselves artificially, and therefore it is among this class that the real celibates and advocates of female celibacy are found.

The females with a moderate sex instinct, even in countries where they are given considerable freedom, are usually satisfied with one husband, unless he is sexually weak. If not married they quickly find artificial means to gratify themselves. If successfully mated and well matched sexually they as a rule produce a goodly number of children and make excellent wives and mothers. If not married they contribute quite a large number to the ranks of prostitutes.

The sexually strong women among some nations are given considerable latitude and freedom of action. But our morality cheats her and condemns her as a criminal and outcast. Our moral code gives her no right to satisfy her sex cravings and because of this she must suffer a life of chronic sexual hunger. It was decided long ago by sexually weak men that these females should lead a life not according to their desires but according to the sexually weak man's moral code. It makes no difference what is good for her or what is not, she must abide by the code. In view of this nothing is left open to this class of women but to suffer or to be social cheats, sexual hypocrites. She may, if she is strong enough to come out into the open, live the life of a free

woman. This, however, requires greater courage than that of clandestinely breaking the sexual code. Very often their sex instincts are aroused before they really become conversant with our sexual code. These cases very often succumb when very young and then never make any effort to harmonize their sex life with the morality of the age. Out of this class of women most of our prostitutes are recruited. Many of this class of women engage in a deadly and tragic battle with their sex cravings in an effort to control them by the moral code, but it is usually without success; and if the woman is intelligent enough and is able to appreciate the real value of our moral code, she begins to lead the life of a free woman. Some others meet sexually strong husbands and when this happens they make excellent wives and mothers.

Another peculiarity about the female with a strong sex instinct is that she has a strong love for offspring. After the birth of each child her sexual appetite increases, and after the birth of two or three children her reproductive appetite reaches higher and higher. When her craving for children has been satisfied, she is then urged by an ever stronger and blind force to procreate more and more. The first is always the child that is desired, the second less so, the third, fourth and so on are merely accidental, because her sex instinct is too strong to be controlled.

There is one point of difference between the sex instinct of the male and female which is of considerable interest. And that is the disproportion that exists almost exclusively among so styled civilized white races between the duration of the sex act of the male and female. There is not the slightest doubt that among the Africans, Asiatics and Australasians the sexual act lasts considerably longer than among the white races. In Africans from 15 to 30 minutes and frequently longer. Among white men five minutes is considered the longest time, three minutes about normal, and among many men not even that long; and this does not satisfy the white female. But there are many men who have entirely premature ejaculations, and this is one of the most distressing conditions that a white female meets in her married life.

There are mainly two causes that contribute to premature emission, one is urethritis (posterior) which is often amenable to treatment. But the most frequent is the psychic variety, and it is so important that I will try to show its origin. Our ideas are totally against early marriages. Among other nations youths

marry between 14 and 20 years of age. In our midst such marriages would be considered ridiculous. But the sex instinct appears at the age of 12 or 13 years, therefore we condemn our young boys and girls to masturbation and to prostitutes. Masturbation has a considerably harmful influence on the nervous system, but this is not so very great. The relationship of a youth to the prostitute has, outside of diseases and the moral atmosphere of a bawdy house, a very deleterious influence on the nerve centers of reproduction.

The first few times that a man has intercourse with a female is the determining factor in the case, and its influence is frequently life-long. If the youth does not wait until his sexual passion has reached its highest pitch, and has intercourse undisturbed by fear and high excitement, he will perform the act satisfactorily to both persons. But if he is over-scrupulous and bashful he will wait until his sexual passion is at its highest point; then timidly approach the female and retreat. He will, for instance, approach a bawdy house and at the door become frightened by the utter strangeness of what he is about to experience, or perhaps he calls it the enormity of the crime, and therefore he will hastily run away. But this does neither satisfy nor quiet his sexual passion. He will be compelled to repeat the same maneuver. He will repeat it several times until he gathers courage for this act. But his sexual centers have been so excited that when he comes to perform the act a premature emission takes place. The same will occur over and over again until the young man establishes a habit from which even when he is married he will be unable to escape. When a young man of this type marries he commits nothing short of a crime. If statistics on the subject could be collected, it would be shown that this cause alone produces more misery and hell in the binding marriage contract than any other cause. The sex desire of the man and woman has been brought by mutual love to the highest pitch of excitement, the normal reproductive act is about to take place, but the man's premature ejaculation brings it to an end—a highly disappointed female, and a degraded insulted manhood, are the results of the whole performance. While writing these lines a married couple of this character consulted me. The man looks and acts like a pauper in spirits, he is depressed, apathetic; and the woman is nearly ready to enter a lunatic asylum. Her nerves are so shattered that everything brings her into a



fury. Somebody will have to tell them that they must separate. It is not rare in my practice and in the experience of other practitioners to see a woman bringing her husband to the physician and stating the cause of trouble. She states plainly that her husband only irritates her sex instinct, but never satisfies her. One woman tells me: "My husband never satisfied me, but . . ." and she smiled like one who would say, "there are other men."

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There may arise the question: Which sex instinct is stronger, that of the male or the female? The answer depends on the point of view one is taking. Taking in consideration that there is far more polygamy than monogamy or polyandry, one is led to suppose that the male sex instinct is stronger. But there is another side to this picture. The male reproductive instinct is simple in character in comparison with the female instinct. Let us compare them on this basis. The man's function is only impregnation; the woman's functions are menstruation, pregnancy, lactation, and all these functions are more or less connected with sexual satisfaction. Comparing the time a male spends on his sexual activity with the time a female spends on her sexual activity, there cannot be the slightest doubt that the female is far more sexually active than the male. How then did our ideas originate that the female must be an angel? It is this that I am going to relate briefly.

We are able to trace the origin of our sex morality to three, in all probability, independent centers, and in all these cases we find only one force acting, one underlying cause.

The oldest center is Greece, with Plato at the head. We are here not concerned with Plato's philosophy in general, but only as to his influence on our morality. Here are some of his ideas:

"But the Love who is the son of the common Aphrodite is essentially *common*, and has no discrimination, being such as the *meaner* sort of men feel, and is apt to be of *woman* as well as of *youths*, and is of the body rather than of the soul—the most foolish beings are the objects of this love." \* \* \* "But the son of the heavenly Aphrodite is sprung from a mother in whose birth the female has no part, but she is from the male only, and the goddess being older has nothing of wantonness. Those who are inspired by this love turn to the *male*." In those days people of this character were styled *women haters*.

The second center is Jerusalem. About 150 years before the



beginning of our era the Judaic sect, the Essenes, became prominent. This sect abhorred marriage and therefore women were not admitted into their communities. Pliny, Josephus and Philo describe them as people who held a very low opinion of women; and Philo says they were "women haters." According to their teaching the heavens are inhabited by sexless angels, women are not admitted to heaven, and marriage never takes place there. Love for a female is low, a crime, a disgrace, but brotherly love is holy and heavenly.

The third center is Alexandria with Philo as a leader, (about the beginning of our era). Philo in his philosophy is a follower of Plato and was a natural "woman-hater."

The philosophy of these different sects spread all over the Mediterranean basin, and was accepted by many normal human beings. For instance St. Paul was an adept of the Philonic philosophy, and his writings represent a fac-simile of the philosophy of Philo. James of Jerusalem was under the influence of the teachings of the Essenes. The compiler of "St. John," was a follower of Plato. The history of the development of our sex morality lies completely within the domain of the history of religion, which has no room in a medical work, but I will deal here shortly with the influence it exerted on our sex morality. Its influence was in two different ways.

Women were not admitted to heaven; later a modification took place, that women may be admitted to heaven, but they must be as pure and sexless as an angel; and in this way was established a standard that only women that are as sexless as angels are of the highest type, hence our angelic morality.

But not all women can be angels: what of the bulk of woman-kind? The original idea of the "woman haters" that a female is an unholy, unclean being predominated. One writer claims that a woman is the invention of the devil to lure men from heaven. With ideas of that character, is there a wonder that men looked at the female as something far below him?

Under the influence of these ideas the female was deprived of all her civil and property rights, a condition which exists yet to-day. James Bryce writes as follows ("*Marriage and Divorce*," p. 35): "Marriage carried with it an absorption of the personality of the English wife into that of the husband whereby all her property passed to him and she became subject to his authority and control." This condition became prevalent in the whole of Europe.

One more point. According to the philosophy of the woman-haters the normal relation of the sexes is an abomination. They, indeed, have a forcible, uncontrollable aversion not only to the female but also to normal reproduction, in fact an aversion to everything that directly or even remotely has any reference to normal relations of the sexes, and it is this aversion of the woman-hater that lies at the foundation of our present sex morality. The abnormal became the moral—brotherly love. The normal became the immoral—sisterly love.

Comparing the sex instinct of the male and female we are forced to the conclusion that though each is made up of a reproductive mechanism entirely unlike, they, nevertheless, when brought together form a complete harmony; there is between them an almost complete co-ordination and the outcome is reproduction, safety of the offspring and little or no suffering to the parents.

When our morality steps in, a morality founded on the ridiculous idea that since there are sexless angels in heaven it should be our privilege as human beings and sons of God to imitate their habits and abandon the sex instinct as abominable, the trouble begins. Instead of harmony and co-ordination and usefulness we get discord and pain out of the performance of our natural functions. This is the most crying shame of our civilization, for everywhere instead of happiness we get only pain. Our strife after the heaven of the future results in nothing more than hell here.

Our state of society, or what we call civilization, centers about one point and that is sexlessness. Too much cannot be said against the theological dogma that gives rise to this state of mind. We have taken our opinion on these things from a little obscure ignorant cult which influenced the mind of the Mediterranean world, and hold it up before the whole human race as the perfection of morality. We want to imitate angels, because the Christian fathers insisted on this ideal. We are told by them that the sex instinct is shameful and criminal, productive only of low ideals. But this instinct refuses to be banished from society; though if one looked on us as a newcomer from Mars one might believe that there is no such thing as a sex feeling, so low has it sunk under the iron weight of saintliness. The mere mention of the word "sex" is regarded with suspicion and in some quarters must not even be hinted at. Our whole civilization is built up to cover the sex feeling with shame. Our houses are made for

“privacy,” our clothing is to cover all traces of the reproductive mechanism; our literature is shamefully devoid of the healthy expressions of the most powerful impulse to art. The same thing is true of our art, philosophy and morality. Even many of our sciences avoid mention of this most fundamental force in life and for a long time, indeed, suffered because of the ban on even the scientific treatment of the subject. Is it not time that we had rid ourselves of this incubus? While its claws are sunk deep into our throats how can we expect to do more or achieve finer things than we have already done?

Our day will come, and it is not far distant.

523 Pine St.

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Translated for THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## THE REGULATION OF OFFSPRING AND SEXUAL MORALITY

By H. POTTHOFF

**A**NXIETY over a decrease in the birthrate has led us to discuss and probe publicly some of the most important social facts which had thus far been kept carefully concealed as being of a mysterious or divine nature or indecent; this is to be welcomed as a significant step in advance.

It is quite difficult to understand why our “scientific” age had allowed all the facts of scientific research to stop at the very point where they assumed their greatest importance, that is as soon as man was concerned; why this rational age had entrusted to the blind instincts of the individual the most important of all things, the very foundation of state and society; why this age so fond of regulation and legislation had allowed the unintelligence and the selfishness of the individual to decide the most capital questions and also left to the individual the care of and the responsibility for the next generation; why this age of “political economy” had refused so long to apply to the creation and breeding of men the main principle of all technical and economic work: to obtain the greatest results with the smallest expenditure, so that our so called “national economy” might include not only the production and marketing of goods but also the production of men.

The agitation centering about the decrease of the birthrate will open many people's eyes to the importance and the necessity of "human economy" which would apply to every individual and to every community of individuals the basic principles of systematic management. The tone of the discussion raging about the decrease of the birthrate, however, shows us how far the day still is when such a system of human economy will be adopted. Most people consider the problem as a moral problem and talk about the decrease of the birthrate as though it were something immoral.

The first legislative attempts on the part of the Bundesrath and the Reichstag to cope with the situation were inspired by a desire to wage a fight, so to speak, on immoral phenomena. The framers of that legislation overlook the fact that immorality is only one of many factors and that besides moral factors there are tremendous economic factors. In fact I consider economic factors as the most important in this connection and a few commercial regulations will not counterbalance the economic facts owing to which the cost of living is rising, cities are overcrowded and farms deserted. It is only some agrarians gone mad who would suggest a further increase of the cost of living as a corrective measure for the decrease of the birthrate.

The worst part of it is that the problem is not approached properly. We are always talking of the number of births as though that was the important thing. In fact the number of births is quite unimportant. *What counts is the number of children who survive.* How many workingmen's wives were there and are there even now who would give birth to twelve children out of whom no more than five would reach their twentieth year? If those women only bore eight children out of whom six would live there would be a *decrease of the birthrate* but at the same time *an increase of the population.* This is exactly what we observe in the movement of Germany's population in the last fifty years. While the birthrate has fallen from 40 per 1000 to 28 per 1000, the natural increase of the population due to births is as large now as it was in 1870. And besides owing to a decrease of the deathrate and of emigration, the population of Germany is growing faster now than it was growing until 1890.

The change we observe in the movement of the population is not an end in itself but only a means to an end. That change is rather pleasant to consider. A decrease of the birthrate is being

compensated by a corresponding decrease of the deathrate, especially among children. The former decrease is probably due to the latter, if we believe the much mooted statement of Rudolph Goldscheid, the Viennese sociologist, that human fertility is not constant but varies according to the losses it must make up for.

We need not discuss the consequences which Goldscheid draws from the fact that a decrease of fertility is made possible by the conservation of life (for instance when he says that mass production is only trash)<sup>1</sup> but it is absolutely certain that the methods employed nowadays to conserve the population and increase it are more economical and therefore more civilized than the methods prevailing in the past.

While nature squanders life extravagantly and lets thousands of seeds go to waste in the hope that a few of them may grow, civilization goes about in a systematic manner and only sows a few seeds where they will have a fair chance to grow and it does its best to conserve all life produced in that way.

Labor protection is conserving health, fatherhood and motherhood, social insurance and popular hygiene are saving life from destruction, especially the lives of the newborn who would perish by the thousand. This relieves our economists of heavy financial problems, saves families from much sorrow, women from the useless wear and tear of body and mind, which the bearing and burying of 100,000 children entails.

In spite of all, one fourth of all the human beings born die in childhood. If the death rate was as low in Germany as it is in England or in Sweden the birthrate could fall off another ten per cent without decreasing the number of children.

Such data of human economy show that most of the moral objections to the regulation of the process of procreation are absolutely groundless. Any attempt at increasing the population in an economical way with the smallest possible expenditure, is as moral as the use of lightning conductors or dykes to protect men from harmful natural forces.

Therefore it is unfortunate that Malthus' name should be in any way connected with this recent movement. This movement starts from quite a different view point and has an entirely differ-

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(1) See Goldscheid's "Higher development and human economy" Leipzig, 1911.



ent aim. Malthus was a pessimist. His "philosophy of misery" was based upon the supposed disproportion between human fertility and the increase of foodstuffs. We, on the other hand, are optimists and we have an unlimited confidence in the development of applied science. Malthus only had one aim: to decrease the extent of poverty; we believe in the possibility of increasing endlessly human happiness. Our aim is to produce as many men as possible who will be as efficient as possible and as happy as possible. Therefore we do not seek like Malthus to decrease the number of human beings but to increase it. Not *by increasing the number of births* but by *regulating* it, a regulation which would in many cases result *in a direct increase*.

Our great "moralists" who fear the regulation of offspring kill off thousands of children with their moral prejudices, thousands of children who lack nothing but a legitimate father. Every legal and economic improvement of the condition of illegitimate children always fosters an increase of the birthrate. So does every measure limiting the working hours of women and children, developing social insurance and affording protection to mothers.

And if we are going to make divorce any easier the desire of one of the mates to have children should be deemed sufficient to break up a childless union.

While this "moral" opposition to the regulation of offspring cannot have very important results, we must realize that regulation will exert a powerful influence on our moral conceptions.

Our sexual morality is tottering. For it is based upon the assumption that the birth of a child is simply a dispensation of destiny, a gift from heaven. That basis will be destroyed when we take the child from nature and turn it over to civilization, when its birth is made to depend upon the conscious will of its parents. There will be then married people and lovers who will not desire a child as the fruit of their love relations; there are many today. Not one tenth of those who yield to love have any desire for a child. But our official morality does not approve of that. It considers that love for its own sake is a crime and that procreation only makes sexual relations sacred.

Official morality does not object to conjugal intercourse because it results in procreation. The more people there are who do not subscribe to this morality as far as they themselves are

concerned, the more hypocrisy there is, for state, church and society pretend to uphold that morality. Let's only recall the teachings of the christian church which see in the pleasures of the flesh the most damnable of sins; remember Wagner's Parsifal in which Kundry's only crime is her sensuality while Parsifal's only merit is that he escapes her lure.

Even Emile Zola, who in spite of his naturalistic novels was a very bourgeois moralist, was not far from sharing that viewpoint. In Doctor Pasqual, the Doctor's niece, an interesting woman, who lives with her uncle in illicit intercourse, declares quite positively that "unless it has the creation of a child as its aim, love is a useless indecency."

Pasqual's niece happens to be perfectly honest about it. But in the majority of cases such a view of morality is mere hypocrisy. And this hypocrisy will be impossible when conception is no longer a mere matter of hazard but an act of will on the part of the mates, when married people will have a perfect right to say: we don't want children or we don't want any more children (the reasons for such a decision and its moral value remaining open questions). We will have then to take a frank and honest attitude towards sexual relations independent from conception, we will have to make up our mind as to who is right, the poets of love whose words voice the feelings of the majority of healthy people or christianity which sees in love the greatest of sins and Zola who sees in sterile love a useless indecency.

The increasing honesty we note nowadays towards eroticism is a sign of moral progress; but it is only the first step towards a complete revaluation of all sexual values.

For what is the basis of our modern compulsory monogamy except society's desire to protect the child? This is the most plausible reason why society compels people who do not love each other, who even abhor each other, to live within conjugal bonds, and prevents them from living with some other person whom they would love. As soon as society admits of consciously childless sexual intercourse, the reason for compulsory monogamy disappears. I say emphatically that this would not do away with monogamy for I do not wish to be misunderstood. But one would have to seek new reasons for monogamy, to find a new basis for it, and there comes the rub. For all the other difficulties have been smoothed out by the development of science and economy and all

the moral and cultural significance of permanent love intercourse with the same person is set at naught as soon as love is replaced by dislike or hatred, when the union is recognized as an error by both parties.

Faithfulness, especially conjugal faithfulness, is demanded solely for the child's sake. Among races which did not understand the relation between intercourse and pregnancy there was, as far as I know, no faithfulness. Will faithfulness disappear when the relation between intercourse and pregnancy being too well understood will be eliminated by a conscious will? Our mind refuses to believe it. Why? Is not the double standard which allows to man almost everything which seems reprehensible in woman, evidence that in final analysis it is the thought of conception which makes faithfulness imperative?

I do not believe that it is man's selfishness which is responsible for this difference in the treatment of both sexes. The position of the illegitimate child is a result of "brutal sexual selfishness." But it is only the result of the difference between father and mother. This difference gives to the double standard its logical meaning. When the double standard is removed will a single standard make conjugal faithfulness compulsory for both sexes?

I wish to state here very clearly that I am not opposed to the idea of faithfulness; I believe, however, that that idea will have to be placed on an entirely new moral basis, when the universal regulation of offspring robs it of the main excuse it has at present.

And should we not find new reasons for the moral repulsion felt towards prostitution if that feeling of repulsion is to be kept alive? I do not speak here only of the hypocrisy with which numberless "moral forces" manage to make despicable the things they cannot avoid; nor of the misery and vulgarity which go with prostitution because almost all the people who enjoy it are themselves vulgar; I only speak of the genuine feeling some people have towards "paid" love and which is a mixture of sadness and fear. What is the origin of that feeling except the possibility of conception? Prostitution is the most dangerous enemy of compulsory monogamy and of conjugal faithfulness. People feel (unconsciously) that it constitutes a dangerous, disturbing factor as far as marriage or in other words the bringing up of children is concerned.

It is not easy to imagine the change in feelings which would take place if we changed entirely the basis of our morality. But we must free ourselves logically from the idea that sexual relations and conception are unavoidably linked. Violent efforts are made to preserve this connection between the two for the sake of our public morality; that is why the regulation of offspring is considered as immoral and sinful from two points of view: it fosters sensuality and constitutes a direct interference with God's management of things.

When by admitting a rational regulation of offspring we grant recognition to the "pleasures of the flesh," when besides the love that wishes to procreate we recognize another form of love which aims at pure gratification, what will then distinguish this gratification from any other form of gratification which man may derive from the physical or mental beauty of other human beings?

And why shouldn't in this age of specialization where gold is master that form of human gratification form the aim of someone's existence?

We consider it perfectly proper nowadays for singers, dancers and poets to earn a living by giving other people pleasure with their voice, their legs or their heart confessions. Every one sells for money what others may enjoy. Why should one special form of barter be despised when it is not (perhaps unconsciously) linked with the thought of conception and procreation?

Another of our notions would be radically changed by the regulation of offspring, our notion of "natural sexual intercourse." Nowadays the worst form of immorality is unnatural or abnormal sexual intercourse. Our penal code inflicts upon certain forms of it severe punishment as "crimes against morality." The idea of natural sexual intercourse, however, can only endure if we assume that conception is the natural consequence of intercourse. As soon as the connection between the two is broken, as soon as it is no longer nature but the human will which takes the decision in such cases (and regulation of offspring means that nature at least on the negative side is to be replaced by civilization, chance by prevision), sexual intercourse of the future will not be any more natural than our present mode of nutrition.

Our nutrition also was originally something "natural," that is, something necessary for the maintenance of the individual. But after the advent of civilization eating and drinking have wandered away from their natural purposes and become means of pure

gratification. Does anybody believe that caviar, champagne, brandy and condiments are being consumed simply for the sake of nourishing the body? Or is seltzer more "natural" than coffee? Therefore any embrace which does not serve the original "natural" purpose of reproducing the species, a purpose which official morality considers as necessary, oversteps the bounds of what is called "natural." There are many kinds of erotic pleasures which all differ one from the other and can be judged by all sorts of criteria; but the former distinction between what is natural and what is unnatural cannot be applied to them, for one is just as unnatural as the other.

To prevent readers with a prejudiced or superficial mind from misinterpreting me wilfully or unconsciously I will say this: I do not pretend that changes will be or should be introduced in our method of dealing with those things; I do not pretend that there will be or should be a change in our moral estimation of things and actions, I only wish to state that a regeneration of our sexual life will cause all the principles of conventional morality to collapse.

It is an instinctive feeling of the far-reaching changes which would take place in our sexual morality which makes the champions of our modern hypocritical morality oppose with all their strength the regulation of offspring which they call a terrible sin. And as every new system of morals appears at first immoral we can understand why German legislators have met the great social problem of human economy with a little police measure meant to combat "immorality."



## A CASE OF TELANGIECTASIS OF THE VERUMONTANUM.

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**D**ILATATION of the blood vessels of the verumontanum is probably an exceedingly rare condition. A somewhat careful search through the literature fails to reveal any mention of this subject, and in a series of several thousand examinations, the writer has encountered it but once, in the case here reported.



Telangiectasis

The verumontanum being an erectile body and participating in the sexual act, it must of necessity be possessed of an abundant blood supply, but its blood vessels are usually not visible even with the aid of the modern magnifying urethroscop. Writers on the

anatomy of this little organ omit any mention of the subject, and the excellent writings of Georges Luys, who has done perhaps the most brilliant work on the verumontanum, are silent on the subject of blood supply.

The case under consideration, came under observation through the courtesy of Dr. Thomas J. Moss, of New York. The patient is 30 years of age, single, and denies having had any venereal disease at any time. In fact, he denies having indulged in coitus, partly from fear of infection, and partly because of a belief that he was impotent. He complained of very frequent nocturnal seminal emissions, averaging three or four every week, for a period of twelve years. His general health is good, but he looks somewhat emaciated and underfed. Examination: External genitals normally developed; prostate and seminal vesicles apparently normal. The urine is clear, no phosphaturia; no evidence of stricture.

Urethroscopy, Dr. Moss present: The verumontanum was somewhat enlarged, and of irregular outline, the apex being rather flattened. Its color was quite normal, except for the base, which was fiery red. It showed no tenderness on contact with the instrument. On its superior and anterior aspects, the verumontanum presented this unusual picture (see illustration).\* Here and there, irregularly situated, were a number of blood vessels, which, on first appearance, seemed to be resting on the outside of the mucosa, like varicose veins projecting above the surface of the skin. They were very red in color; pulsation could not be discerned. When touched with a probe, they did not move from their location, and it was evident they were adherent to the tissue substance and probably underneath the mucosa. They emerged from the deeper tissue layers to the surface for a short distance and then returned to the deeper parts. Whether the hyperemic area at its base was merely a very red mucosa, or made up of a mass of these blood vessels, could not be determined. There was no bleeding, either during or after the instrumentation.

Careful search made during subsequent examinations has failed to indicate the presence of a utricle or prostatic ducts. The posterior fossa (prostatic fossette) is normal except for the presence of a well-defined ridge extending backward from the verumontanum in the median line. The walls and roof of the urethra

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\* This illustration is from a photograph of a wax model of the verumontanum, made by the author, as described in the *Annals of Surgery*, October 1915.

adjacent to the verumontanum show nothing unusual except a few reddish patches.

Local applications of 10 per cent silver nitrate, once in two weeks, have had the effect of diminishing the prominence of the blood vessels, so they are barely perceptible at the present writing. The seminal emissions have likewise become less frequent.

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## PECULIAR SYMPTOMS WHICH MAY BE CAUSED BY CHRONIC PROSTATITIS.\*

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**C**HRONIC inflammation of the prostate gland is one of the commonest diseases with which the adult male is afflicted. Out of approximately 500 adult men seen by the writer in medical practice, 36, or 7 per cent., were suffering from this disease. Chronic prostatitis is often overlooked, particularly when the symptoms do not point directly to the pelvic organs as the possible site of trouble; yet many symptom-complexes depend directly upon this condition, and their cure is well-nigh impossible without recognition and treatment of the primary prostatic disturbance.

This paper is not intended to be a treatise upon chronic gonorrhoea, but to take up briefly a class of cases which presents general medical symptoms, particularly of a nervous character, caused by inflammation of the prostate gland. This may in turn depend upon a previous gonorrhoea, perhaps long forgotten, or may have been induced by other causes. In discussing this subject I wish at the outset to express my great debt to the late Dr. Nathan Jacobson. Through his influence I was led to take an interest in this branch of medicine, his knowledge of which far exceeded that of any physician or surgeon I have ever known. The cases upon which this study is based are taken largely from Dr. Jacobson's records, partly from my own.

The normal prostate gland resembles a horse-chestnut in size and shape. It lies just below the neck of the bladder, and is penetrated from base to apex by the prostatic urethra. The structure of the prostate is comparatively simple, consisting of a connective-tissue capsule, from the inner aspect of which numerous muscular and connective-tissue bands run inward to form the stroma of the organ. In the interstices of the stroma, and sup-

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\* Am. Jour. Med. Sciences.

ported by it, lie the prostatic glands. They are of the compound tubular type, and end in ducts which empty by fifteen or twenty openings into the prostatic urethra along the sides of the verumontanum. The two ejaculatory ducts pass through the substance of the prostate and empty upon the summit of the verumontanum, a small but important muscular structure which forms part of the floor of the prostatic urethra.

The prostate gland is provided with a free blood supply, and is surrounded by a plexus of veins so large and so closely interwoven as to suggest the cavernous spaces of an erectile tissue. The veins of the prostate form one of the connecting links between the portal and inferior caval systems. The nerve supply shows an extraordinary wealth of nerve fibers, ganglion cells, and nerve end-organs. It is conceivable that the unusually rich blood and nerve supply of the prostate may determine on the one hand the readiness with which the gland undergoes congestive changes, and on the other hand the numerous local and general nervous manifestations associated with prostatic inflammation.

After studying the structure of the normal prostate it becomes easy to understand some of the changes which chronic inflammation brings about. If, for example, there is an increase of the connective tissue sufficient to compress some of the numerous tiny ducts the secretion of the tubular glands becomes dammed back, dilatation of the glands follows, and often small cysts are formed. The inflammatory changes may involve principally the stroma which increases in density, thereby producing a hard prostate, or the glandular structures may bear the brunt of the inflammatory changes and become distended with purulent secretion. In the latter instance an enlarged but soft or adenomatous prostate results. As a rule, both the glands and the interstitial tissue are involved, although often in unequal degree. Cases of long standing with much sclerosis show contraction or even obliteration of many glands.

The most common cause of chronic prostatitis is, of course, gonorrhoea. "For practical purposes," as Hugh Cabot says, "chronic gonorrhoea is chronic posterior urethritis, and in the same way chronic posterior urethritis is chronic prostatitis." Inasmuch as the posterior urethra is probably involved in from 70 to 90 per cent. of all cases of gonorrhoea, it goes without saying that chronic gonorrhoeal prostatitis must be a very common disease.

It is not so generally recognized that there is an important class of cases in which chronic prostatitis exists with no antecedent gonorrhoea. The etiology of non-gonorrhoeal prostatitis is not entirely clear. Young believes that the prostatitis is of bacterial origin and that the organisms are probably conveyed to the prostate by the blood stream or from contiguous structures, notably the rectum. Of underlying factors the most important appear to be prolonged sexual excitement without gratification; excessive masturbation or sexual intercourse; irregular sexual practices, as coitus interruptus; and occasionally bicycle- or horseback-riding. Lydston states that when the periods of rest between the acts of ejaculation are so short that the circulation cannot regain its normal equilibrium, disturbances of the prostate are likely to follow. He considers that any masturbator who has practised the habit for any considerable length of time may be regarded as having a more or less swollen and tender prostate. Keyes lays stress upon cases where there is association with a person of the opposite sex who permits dallying, even though coitus is not indulged in, thereby producing excessive dilatation of the prostatic vessels. Any or all of the above-mentioned factors probably pave the way for later bacterial invasion.

The symptomatology of chronic prostatitis is exceedingly varied, and, as Young says, may involve any of the organs in the various regions between the diaphragm and the toes. Pain is one of the most common complaints, usually dull and aching in character. It may involve the abdomen, back, external genitals, rectum, perineum, or be referred down the legs even to the toes. Among the conditions simulated may be renal calculus, lumbago, varicocele, sciatica, disorders of the abdominal viscera, and neurasthenia. Young has reported a number of cases in which there was strong resemblance to renal colic, even to the appearance of blood in the urine. In some instances the symptoms very closely simulate those of prostatic hypertrophy. Here it is exceedingly important to recognize the true condition, as proper treatment will save the patient from catheter life or an operation. McCrae mentions cardiac symptoms, such as anginal pains, palpitation, and tachycardia, accompanied by feelings of anxiety and distress. A common complaint is a sensation of fulness just within the anus, even though the rectum may be entirely clear of feces. With reference to urination there may be pain before, during, or after the passage of urine, or inability to expel the last drops of urine. Among the sexual



symptoms may be mentioned diminution or loss of sexual power, premature ejaculations, and nocturnal pollutions.

The mental effects of chronic prostatitis are of great importance. Dercum states that there is apt to be difficulty in the performance of mental acts which require concentration, and a distinct disinclination for mental work. The sleep is often disturbed and true insomnia may result. The well-known picture of sexual neurasthenia or hypochondria is familiar to all. The patient has his mind constantly fixed on his organs, believes that he is afflicted with severe or incurable maladies, and falls a ready prey to the quack, who knows best how to play alternately upon his hopes and fears.

The diagnosis of these conditions is simple. It depends upon rectal touch and the examination of the expressed prostatic secretion. The prostate usually feels enlarged, and may be irregular and indurated, or soft and boggy. Often it is nodular or shotty, due to dilated or cystic glands, and in many cases areas of softening and infiltration are irregularly encountered over the surface of the gland. Old inflammatory adhesions may extend from the prostate to the sides of the pelvis, making the organ more fixed than normal, and usually involving the seminal vesicles, with obliteration of the furrow between the upper margin of the prostate and each seminal vesicle. Inflammatory changes in the substance of the vesicles may coexist. Tenderness of the prostate is frequently met with, and in some cases the patients can hardly endure the lightest touch.

Normal prostatic secretion is a thin, milky fluid containing principally lecithin bodies (round, refractile structures the size of a red blood cell), granular phosphates, mucus and an occasional leukocyte, epithelial cell or amyloid body. In chronic prostatitis the secretion is increased in amount, and is yellow and thick. Occasionally it is tinged with blood. The characteristic feature of the microscopic examination is the presence of pus. Young states that in some cases pus is not found at the first examination, and the prostate may have to be massaged several times before pus appears. This, however, is not the actual occurrence. The amount of pus gives a rough estimate of the degree of inflammation. In cases which are progressing toward cure the polynuclear cells are gradually replaced by mononuclear elements. The constant absence of pus excludes active prostatic inflammation.

Investigation of the expressed secretion for bacteria is of some assistance. The finding of the gonococcus, of course, gives positive information, but as most of the cases are of long standing this organism is either very hard to find or has entirely died out, its place being taken by secondary invaders. Occasionally cases are reported in which the gonococcus has persisted in the prostate for a great many years, but many competent observers believe that it is exceptional for the organism to be found after three years. In the non-gonorrhoeal cases various bacteria have been encountered, such as the staphylococcus, streptococcus, or colon bacillus.

Inflammatory changes in the posterior urethra usually accompany prostatitis, and particularly affect the verumontanum or colliculus seminalis. Expert endoscopic examination is likely to reveal congestion, infiltration, or enlargement of this structure, with perhaps dilation of the ejaculatory ducts. In many cases the prostatic urethra is extremely hyperesthetic.

The sheet-anchor of treatment is prostatic massage. Although a simple procedure, it is one that requires a considerable degree of skill when scientifically performed. The patient stands with his legs apart, the knees held stiff, and the trunk bent well forward. The physician is seated behind the patient and rests the elbow of the examining hand against his thigh for additional leverage. If preferred he may stand with one foot upon the seat of a chair and the elbow resting against his knee. In some cases it is necessary to press very firmly against the perineum in order to reach the upper part of the prostate. The free hand of the examiner may exert counterpressure over the lower abdomen if this is needed. The gland should be methodically and slowly stroked from above downward and inward, and the entire organ systematically covered. Two or three minutes are usually sufficient. Haphazard rubbing of the rectal mucosa is to be avoided. At the first treatment it is well to err upon the side of gentleness, as with some patients massage seems to produce powerful reflex effects. They become pale and faint and are covered with profuse perspiration. At subsequent treatments the degree of pressure used can be gradually increased. It is desirable for the patient to have the bladder moderately full of urine or, perhaps even better, for the physician to distend it with a mildly antiseptic solution. Failure to observe this precaution is said to occasionally result in infection of the urethra from the expressed prostatic secretion, although in our experience this has

never occurred. In case no glove is worn on the examining hand, but only a finger-cot, additional protection is afforded by thrusting the finger through a small opening in the centre of a piece of gauze eight inches square. The value of prostatic massage lies in periodically emptying the dilated prostatic tubules of their retained secretion, and in promoting absorption of the inflammatory infiltration of the prostatic tissue. Ordinarily it should not be repeated oftener than once in three to five days, the latter interval usually being the most satisfactory.

Instillations into the posterior urethra by means of a drop syringe are often very helpful in overcoming the associated posterior urethral inflammation or irritability. We have had the best results with a 30 per cent. solution of argyrol. In some cases hot or cold rectal irrigations with a two-way rectal tube help to stimulate the gland and promote resolution. In suitable cases additional urethral instrumentation may be needed, such as irrigations, dilatations, the passage of sounds, etc.

Every effort should be made to improve the patients' general health, and various tonics and sedatives may be needed. Sometimes, in intractable cases, a complete change of scene, with suspension of all treatment, will bring about a cure. Psychotherapy should not be forgotten. Most of these patients are introspective, and have a tendency to magnify their symptoms. Many of them become discouraged at the length of time necessary for cure. It is only too true that the most important element in the treatment of chronic prostatitis is time, and the longer treatment is continued the better are the chances of cure. An absolute anatomical cure can never be expected, as the pathological changes in the gland are usually too far-reaching for complete resolution, but a symptomatic cure can, as a rule, be obtained.

This paper is based upon the analysis of 161 cases of chronic prostatitis seen during the past twelve years. Of this number 100, or 62 per cent., gave a history or other evidence of the presence of gonorrhoea; 61 cases, or 38 per cent., gave no history of gonorrhoea. Even granting that a few of the patients may have been unwilling to admit a previous venereal infection the proportion of non-gonorrhoeal cases, fully one-third, is fairly large.

CASE I.—*Close simulation of lumbago; relief afforded by prostatic treatment.* J. M., aged forty-six years, miller, seen February 2, 1903. Denies venereal disease. Nearly a year ago was seized with a "crick in the back." At first it was intermittent,

lately it has become constant. At times he cannot bend his back. The pain affects principally the lumbosacral region. He has been treated by cauterization of the back and also by static electricity.

The prostate was found to be enormously congested, and after massage there was a very free discharge of prostatic secretion. Treatment by prostatic massage was continued at irregular intervals for two months. The prostate became much reduced in size and scarcely any discharge appeared after massage. The pain in the back disappeared save at rare intervals and the patient felt greatly improved in strength and vigor.

CASE II.—*Symptoms suggesting prostatic hypertrophy; patient saved from catheter life by treatment of neglected prostatitis.* C. V. W., aged sixty-two years, manufacturer in metal trade, married, seen September 21, 1907. Patient had a mild attack of gonorrhoea about forty years ago, and syphilis thirty or thirty-five years ago. Four or five years ago he began to have painful urination. The pain seemed to come on when the bladder was full of urine and persisted until urine was passed. At first the desire to urinate was not very pressing, but during the past year he has had periods of marked disturbance. As a rule, he urinates five or six times a day, and until lately has not been up at night. These periods of aggravation of the trouble recur every two or three months, and last four or five days. At such times he is obliged to urinate every two hours and the desire to pass urine during the time is increased. For the past three or four days he has urinated more frequently than usual. He is up three or four times at night and has distress at the end of urination. The urine is clear and he has never passed any blood. At no time has there been retention. A physician advised him to use a catheter, and he has done so for four or five days.

Examination showed the right lobe of the prostate to be sensitive and much larger than the left; both were of soft consistency and easily reduced by massage. Three ounces of residual urine were found in the bladder. At the end of two and a half months' treatment the prostate had lost its tenderness and was nearly normal in size. The patient experienced marked relief from symptoms, was able to sleep all night in comfort, and had no disturbance of urination by day.

CASE III.—*Urinary symptoms depending upon old gonorrhoeal prostatitis.* V. K., aged forty-seven years, tailor, married, seen February 28, 1907. Patient denies venereal disease, but in 1890



had an internal urethrotomy performed for stricture. Five or six years ago he began to suffer from burning during urination and a sense of pinching of the bladder. As soon as the urine enters the bladder there is a desire to urinate. This desire begins to manifest itself within fifteen minutes after he has emptied his bladder. He is then in great distress until he can void urine. The longest period that he can hold it is one and a half hours. At night he does not awaken until five in the morning, and is then obliged to urinate several times in succession. He feels the irritation and pressure mostly at the head of the penis. The bladder holds, he thinks, about three ounces. He is very comfortable after urinating. If he holds the urine too long it is apt to dribble away.

The prostate was normal to touch, but the right seminal vesicle was tender. Upon massaging the prostate a gleet discharge occurred which contained gonococci. No evidence of urethral stricture or bladder stone was found.

*Treatment.*—Prostatic massage, with deep urethral injections of 2 per cent. silver nitrate solution at five-day intervals, tonics, urinary sedatives, and antiseptics. Improvement began almost immediately, and at the end of ten months the urinary symptoms had almost completely disappeared. The patient was able to hold his urine many hours by day, was not disturbed at night, and felt stronger and better in every way.

CASE IV.—*Unusual sexual symptoms depending upon chronic prostatitis.* T. D., aged sixty-five years, miller, seen February 17, 1906. Denies venereal disease. Has been married twice. Prior to his first marriage he suffered a great deal from seminal emissions. During the early years of his first marriage he did not have proper control of his sexual organs during intercourse, but of late there has been no trouble in this direction. For a period of several years he has been awakened at night, from one to three or four times a week, with a series of painful erections. Each time it is associated with an urgent desire to urinate. Sometimes this occurs four or five times a night. The next day he feels completely tired out. He suffers from a feeling of pressure and bearing down in the left side of his scrotum and over his left hip. Other nights he is apt to be awakened two or three times to urinate. During the day he urinates about four times. He is apt to urinate oftener on the days following the erotic nights. He never has had any failure of sexual power, but feels nervous and broken down in health.



The prostate was found to be moderately enlarged, soft, and easily reduced by pressure. Two draehms of residual urine were present. The patient was somewhat improved by repetition of the massage, but did not come regularly for treatment.

CASE V.—*Headaches induced by sexual intercourse, and caused by chronic prostatitis.* R. R., aged forty-five years, farmer, married, seen April 1, 1911. Two and a half years ago he had an obstinate attack of gonorrhoea. A year ago he began to have attacks of pain in the forehead and back of his head, lasting about twenty-four hours. Each time the attacks would be brought on by sexual intercourse. While engaged in the act he would be seized with intense pain in the back of his head, which would extend to the forehead. These seizures do not occur every time he has intercourse, but have become more frequent of late.

The urethra was found to be very sensitive, and the prostate exceedingly tender, enlarged, and soft, with greater involvement of the right lobe. Under massage it was considerably reduced in size.

Treatment consisted of prostatic massage, instillations of argyrol into the prostatic urethra, and suitable medication. The patient was advised to abstain from sexual intercourse as much as possible. He was under observation for two and a half months, and showed great improvement. The attacks of pain during intercourse entirely disappeared, his sexual vigor became greater than for many years past, and his general condition decidedly better.

CASE VI.—*Sexual neurasthenia relieved by treatment of the prostate and urethra.* M. M., aged thirty-nine years, married, railway mail clerk, seen June 8, 1910. Patient had gonorrhoea twelve years ago and again three years ago. For several years has worried excessively over trifles. Six months ago he had an attack in which he began to tremble and felt as if he would collapse. He has had frequent spells of this kind since. For three months has been troubled with insomnia. He has what he calls shivers and seems to tremble inside. He is weak and tired and has pains in the heels after standing. Blood rushes to the head at times and there is ringing in the ears. He is particularly anxious about his sexual organs and his mind is constantly occupied with sexual matters. The patient admits excessive indulgence in sexual intercourse, but states that of late his sexual vigor has diminished and he fears that he is losing his vitality. After urinating he frequently feels as if he had not fully emptied his bladder, and there is apt to be a stinging sensation with some dribbling of urine.

Nothing abnormal was found in the urethra, but it was exceedingly sensitive to the passage of a sound. The prostate was very large, and after massage there appeared a great quantity of mucopurulent secretion streaked with blood.

The patient was under observation for over a year and was treated by massage of the prostate, the passage of sounds, and suitable internal medication. The urethral sensitiveness entirely disappeared, but when last seen the prostate was still large and considerable secretion could be expressed by massage. The symptomatic improvement, however, was very marked. The numerous nervous manifestations largely disappeared. The insomnia was replaced by restful sleep, the sexual life became more nearly normal, and the ability to do better work and to enjoy life were greatly increased.

CASE VII.—*Sexual hyperesthesia causing excessive sexual excitement.* H. M., aged thirty-two years, married, seen July 3, 1911. Patient never has had any definite illness. States that he began to masturbate when he wore dresses, and has always been exceedingly passionate. For years his sexual desire has been most violent, and he sometimes has intercourse with his wife as many as six or eight times in a single night. He is thoroughly aroused over his condition and tries very hard to control himself, but seems unable to do so. He is very nervous and has a great deal of indigestion. He has pain in the back and a feeling of irritability in the rectum.

The prostate was found to be greatly enlarged and soft. A large quantity of prostatic secretion was forced out by massage. Immediately the patient had a series of hysterical convulsions. He jerked, twitched, and was greatly agitated. He afterward stated that many years ago he had been similarly affected by having sexual intercourse. After three and a half weeks of treatment by prostatic massage an attempt was made to pass a sound, but the mere introduction of it into the meatus again threw him into convulsions. The influence of massage, however, was little short of wonderful. The nervous symptoms showed great improvement, the stormy sexual desires lessened, and after a time he could endure the passage of a sound without difficulty.

In this case the excessive masturbation of early life probably led to congestion of the prostate, which was later followed by true prostatitis. The inflamed prostate still further stimulated the patient's sexual desires, which were always unduly strong, until relief was obtained by suitable treatment.

CASE VIII.—*Painful seizures of obscure origin; stone suspected; relief afforded by treatment of the prostate and deep urethra.* J. M., aged fifty years, druggist, seen April 30, 1912. Patient never had any acute illness, although he has never been vigorous. Ten years ago he broke down nervously, and since then his power of endurance has been much diminished. Two years ago he was taken with pain to the left of the navel, which extended into the groin. The next day he vomited and had a continuance of the pain. Three weeks later he had a similar attack of pain which extended to the end of the penis and up his left side into the back. For a year he had recurring seizures of pain about every three weeks. He never passed any gravel. Roentgen-ray examination for stone was negative. The urinary tract was carefully investigated on several occasions, including ureteral catheterization, but nothing abnormal was found save a small swelling on the verumontanum. This was treated with silver nitrate and the patient had no attack of pain for a whole year. Lately he has had a constant desire to urinate and an uncomfortable feeling after urinating. The pain extends to the head of the penis, but if his bowels move freely the pain disappears. He complains of smarting in the perineum, with pain in the right groin and right hip. For the past week he has had pain shooting up and down the penis, and the desire to urinate has been very urgent.

The prostate was found to be considerably enlarged, especially the right lobe, and the seminal vesicles were swollen. Under massage considerable reduction in size was apparent.

Treatment by massage of the prostate and the injection of 30 per cent. Argyrol into the deep urethra gave the patient considerable relief, but he remained under observation only a short time.

CASE IX.—*Attacks of abdominal pain of obscure origin caused by chronic prostatitis.* R. B., aged thirty-five years, farmer, married, seen October 12, 1911. Patient has never had any serious illness. Two or three years ago, in midwinter, when it was very cold, he was drawing logs and had an attack of what was called inflammation of the bladder. It was attended with a constant desire to urinate and some difficulty in passing urine, together with pain across the lower abdomen. In a day or two he was well again. About a year ago, while milking a cow, he was seized with sever pain in the right inguinal region. The pain was so intense that he could not get to his house. It lasted an hour and was followed by tenderness which persisted for a week.

At times he has had a creeping and trembling sensation throughout the abdomen. Six days ago he began to have pain in the left side of the abdomen below the level of the umbilicus. The pain extended into the left testicle and lasted half an hour. Two days ago the pain recurred in the left groin, extending into the left testicle, and was associated with a cramping of the muscles on the inner side of the thigh. The pain was so severe that he was forced to lie down in the field. At no time was there difficulty in passing urine. At present he has so much tenderness that he is unable to work.

On examination a left-sided varicocele was found. The prostate was considerably enlarged and tender, the right lobe more than the left. The urine contained no blood. The patient was under treatment for only six weeks, but during that short time showed definite improvement, with no return of the painful seizures from which he had suffered.

CASE X.—*Attacks of pain in lower abdomen definitely relieved by treatment of prostate and deep urethra.* E. C., aged fifty-six years, farmer, married, seen January 6, 1910. Four years ago he began to have attacks of dull pain across the lower abdomen. If he became constipated the pain was likely to come on. At first the attacks were of a few hours' duration and occurred about once in six or eight weeks. Recurrence of pain has lately been more frequent. The seizures are usually associated with an increased desire to urinate, but he has no pain associated with urination. For the past three weeks he has been obliged to pass urine once during the night. Frequently the pain is relieved by movements of the bowels. If he can have sexual intercourse when an attack appears to be impending he can usually avoid its occurrence.

The prostate and seminal vesicles were moderately enlarged and quite a little secretion appeared after massage. Catheterization showed half an ounce of residual urine in the bladder. Treatment consisted of massage and deep urethral instillations of 30 per cent. Argyrol. The patient showed steady improvement. During the early months of observation he was obliged to have fairly regular treatments in order to keep in good condition. If there was an interval of ten days between treatments he began to have an uneasy sensation about the prostate, perineum, and rectum, and if two weeks elapsed he was very certain to have a bad attack. Gradually he was able to take the treatments less and less often, until finally he could wait several months without suffering any evil re-



sults. The patient was seen last on June 27, 1914. He had not been treated for ten months, but stated that he had been very comfortable until within a few weeks. He had then experienced a recurrence of his old trouble, with severe pain in the lower abdomen, lasting two or three hours, and compelling him to lie down. The prostate was only a little enlarged, but was tender, hard, and, nodular.

CASE XI.—*Symptoms of general neurasthenia with no indications of disturbance of the prostate; chronic prostatitis discovered in course of routine examination.* T. L., aged thirty-five years, stenographer, single, seen September 30, 1913. Denies venereal infection. Has never been strong, but has no serious illness. Patient has been nervous for about ten years. Complains of a full feeling in the ears and does not sleep well. Head gets tired after he works hard. He has a throbbing sensation in various parts of the body and the legs feel weak. Finds it hard to concentrate his mind. Is easily annoyed by trifles. Has frequent headaches and dizziness, and a cough which he considers of nervous origin. Urinates once or twice at night and rather frequently by day.

Examination revealed no organic anomaly save for the condition of the prostate. This was found to be moderately enlarged, soft, succulent, and very tender. After massage a profuse, purulent, yellow secretion literally poured from the penis. The patient has been under treatment for a year, and was last seen on August 15, 1914. The prostate was smaller but much firmer, and presented areas of softening alternating with small nodules. There was no special tenderness. The secretion expressed by massage was thinner and less abundant. The patient stated that his general health and nervous strength have been greatly benefited. He is able to endure more, can concentrate his mind more easily, sleeps better, and rarely has headaches or dizziness. The cough has disappeared.

These cases are illustrative of some of the common types of disturbance produced by chronic prostatitis. In many of them certain urinary or sexual symptoms might make one think of the prostate as a possible source of trouble, but in others absolutely no indications are present to lead the diagnostician to the region of the pelvis. Young very aptly says that if the systematic and complete physical examination, so thoroughly emphasized today, were extended regularly to the prostate, many obscure conditions would be readily made clear. "The locality of symptoms is not of nec-



essity the seat of disease" (McCrae), and the area to which the patient refers his complaints may be far from the primary source of trouble. It is well understood that pelvic disturbances in women may cause a great variety of reflex symptoms, often in distant parts, but it is not so commonly believed that similar conditions are encountered in disease of the male pelvic organs. Finally, a diagnosis of neurasthenia in the male is never justified unless a thorough examination of the prostate gland has been made.

## REFERENCES.

- Bangs, L. B. Some Phases of Prostatic Diseases, *New York Medical Jour.*, xcv, 1254.
- Cabot, Hugh. *American Practice of Surgery*, Bryant and Buck, vi, 762.
- Dercum, F. X. The Nervous Phenomena of Prostatic Disease and their Relation to Treatment, *Therap. Gaz.*, 3d series, xxix, No. 2, 77.
- Keyes, E. L. *Genito-urinary Diseases*, D. Appelton & Co., 1903, p. 314.
- Lydston, G. Frank. *A Text-book of Genito-urinary, Venereal, and Sexual Diseases*, F. A. Davis Co., 1899, p. 628; *Sexual Neurasthenia and the Prostate*, *Med. Rec.*, February 3, 1912, p. 218.
- McCrae, Thomas. The Remote Effects of Lesions of the Prostate and Deep Urethra, *Jour. Amer. Med. Assoc.*, lxi, 477.
- Morton, H. H. *Genito-urinary Diseases and Syphilis*, F. A. Davis Co., 1912, p. 124.
- Portner, Ernst. *Genito-urinary Diagnosis and Therapy* (translated by Bransford Lewis), C. V. Mosby Co., 1913, p. 79.
- Wilson, L. B., and McGrath, B. F., *Surgical Pathology of the Prostate*. Collected Papers by the Staff of St. Mary's Hospital, 1911, p. 247.
- Young, Hugh. *Modern Medicine*, Osler, vi, 342.
- Young, Geraghty, and Stevens. *Chronic Prostatitis*. *John Hopkins Hosp. Rep.*, xiii, 271.

Contributed to the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## SEX TRUTHS

BY ALICE GROFF.

Here are a few truths that I should like to stamp ineffaceably upon the minds of the sex-superstitionists.

1st. Sex-functioning is no more sacred than bowel, or bladder, or liver functioning.

2nd. Sex desire is no more to be reprobated than hunger or thirst.

3rd. To run risk of sex-contagion is no more "wicked", than to run the risk of any other kind of contagion equally dangerous to health or life, in self or another.

4th. Sex intercourse exercised exclusively between people who are tied together for life is no more holy, no more elevated, no more admirable, no more beneficial to the race or the individual than such intercourse between any two people who may choose to come together at any moment—given equal physical, intellectual and spiritual endowment in the individuals in both cases.

5th. The individual who would deliberately risk giving sex disease to another, or to a child through another, is as great a criminal as one who would deliberately risk giving poison to another for his own selfish gratification and he should be held as such before the law.

6th. To communicate sex disease in marriage is as great a crime as to communicate it out of marriage where the victim is ignorant. Where both consciously run the risk in marriage or otherwise, both are equally fools and knaves.

7th. Where sex desire is mutual between two people, and one of them does not wish to risk the possible consequences of such intercourse, *any* method which will obviate these consequences without some definite danger to the health of either, is as high and holy, as spiritual, as moral, as beneficial to the race, as abstaining from intercourse.

8th. The individual who allows himself or herself to be flattered, charmed, loved or forced into sex-intercourse under adverse conditions, has self alone to blame, except in cases where ignorance or weakness in the victim gives vantage to the other; from such vantage the social order should protect by education and by law as it would protect from theft or murder.

9th. Our marriage laws are "fantastic tricks before high heaven to make the angels weep", as to endorsing such education and furnishing such protection.

10th. Our religious teachings as to sex-relations are only another form of such fantastic tricks played upon life.

11th. Our social purity standards are a mocking insult not only to scientific truth but to common intelligence.

12th. The only truth as to sex, or anything else in life, is scientific truth,—truth based on reasoning upon the facts of experience,—experience, physical, psychological, sociological.

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Translated for the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

### SEXUAL ABSTINENCE

BY DR. H. E. SCHMIDT, Berlin.

Intelligent physicians should realize that the forcible repression of any normal instinct is harmful for the organism; the sexual instinct being one of the strongest normal instincts, should therefore, be gratified just like hunger and thirst.

This may sound a little strong but it only expresses the truth simply.

The only normal way of gratifying the sexual instinct is through coitus, but as our modern social system in this and in other lands places marriage beyond the reach of young men at the age when their sexual needs are the most insistent, for they are unable then to support a wife and earn a livelihood, their sexual desires must be satisfied through illicit coitus.

There is nothing immoral about this; it is merely natural.

Therefore societies for the prevention of sexual diseases misunderstand their task when they confine themselves to issuing warnings against illicit intercourse; they should fight the dangers resulting from it instead of simply dodging them.

Continuous efforts are made to terrify young men by depicting to them the dangers of venereal disease; we hear lectures delivered by fanatics who preach abstinence as the only protection against it, and those lectures are then endorsed officially as models of the kind.

Those who preach morality instead of teaching hygiene have no conception of their duties; besides, the dangers which result from compulsory abstinence are not less serious than those resulting from illicit sexual intercourse.

When an organ is left unused it degenerates, its functions are affected and finally cease. Impotence is the unavoidable consequence of total abstinence, all the authorities to the contrary notwithstanding.

Strict abstinence is hardly possible in reality. Impelled by their exaggerated fear of the dangers of sexual intercourse, young men acquire the masturbation habit and in that way become surely impotent.

The habitual onanist does not need any erection to obtain his artificial gratification; he can bring about an ejaculation without previous erection; when he then attempts to have normal coitus he will in the majority of cases be unable to have an erection.

We need not insist on the fact that the continuous fear of the dangers of sexual disease causes individuals with bisexual tendencies to develop into homosexuals.

By preaching continually abstinence as a means of avoiding venereal disease, societies for the suppression of sexual disease lead young men from Scylla into Charibdis, and neglect their real duty which should be to make illicit intercourse as safe as possible.

## ABSTRACTS

### THE INTRANASAL TREATMENT OF DYSMENORRHEA.

Dr. Charles A. O'Reilly (*Am. Jour. of Obstetrics*) reviews the literature on the relation between the nose and the genital organs in women, and reports six cases of his own in which dysmenorrhea was successfully treated by the application of cocaine and trichloroacetic acid to the genital spots of Fliess. Fliess pointed out, in 1897, that in the nasal mucous membrane there are certain areas which he called genital spots, located one on the tuberculum septi, an area about 1 mm. directly opposite the middle part of the middle turbinate, and the other on the anterior portion of the inferior turbinate on either side of the nose. If one observes, by means of reflected light and nasal speculum at the time of menstruation, these particular areas, he finds them slightly cyanotic, very sensitive to the touch of an applicator, somewhat swollen, and showing a tendency to bleed easily. Fliess' first experiments were with cocaine, which in a 20 per cent. solution, was applied to the spots during an attack of dysmenorrhea. His observations were that the pains in the back and abdomen ceased after a five-to-eight-minute application, and did not return until the effect of the drug had disappeared. If the anterior portion of the inferior turbinate on either side of the nose was touched, the headaches ceased, but it had no effect on the abdominal pains. If one side of the nose was treated, the headache and the pain on the opposite side of the abdomen was relieved. Since then these results have been confirmed by Dr. Emil Mayer and others with menthol, cocaine and caustics. Mayer, who treated 93 cases in conjunction with Dr. Jos. Brettauer, found that trichloroacetic acid applied to the genital spots four times at intervals between the menstrual period is sufficient to obtain permanent relief in from 50 to 75 per cent. of cases.

Mayer's technique, which was followed by the author, is as follows:

The genital spots are thoroly cocainized by means of a pledget of cotton wet in a 20 per cent. solution of cocaine with adrenalin. This pledget is allowed to remain in contact with these spots for three minutes. They are then tested by means of a probe as to their sensitiveness, and if sensation is still found to persist, the application is repeated for another three minutes. Then a crystal of trichloroacetic acid on the point of a probe is applied to the tuberculum septi, and then another crystal is applied to the anterior portion of the inferior turbinate on either side of the nose.

The slough that forms disappears in about five days, when the same process should be repeated, so that in all four applications must be made between the periods. The patient is then requested to report her results at the next menstruation. If these are favorable, no other treatment is resorted to, except that two more reports are requested at the following menstrual epochs, and if these are favorable the patient is discharged. In cases where relief is slight, or not at all favorable, four more applications should be made between the menstrual periods, and if no benefit is reported, the treatment must be put down as negative. The chief reason for not resorting to the galvanocautery in preference to trichloroacetic acid is the danger of forming synechia.

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#### NEGATIVE LUE'TIN TESTS IN CONGENITAL SYPHILIS.

Dr. Adair Dighton (*Med. Press*) believes the luetin test to be useless in cases of congenital syphilis. He reports on 30 cases of children in which congenital syphilis was suspected, of which at least half would certainly be so diagnosed, owing to the presence of interstitial keratitis, perforation of the palate, etc. Each case was most carefully watched from the time of injection until at least a month later, but in no case was there the slightest sign of any skin reaction, and in only one case was there a constitutional reaction which might possibly be ascribed to the luetin. His negative results were so continuous that he thought perhaps the luetin might be at fault, but, in spite of trying three different lots, there was no difference in result.

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#### GONORRHEAL STOMATITIS.

Dr. H. J. Farbach (*N. Y. Med. Jour.*, Vol. C, No. 15) reports the following case. Girl, aged twenty-one, single, living at home, not employed. General appearance and physical condition good. Family history negative. First noticed, about a week before, a hot, burning sensation in mouth and throat. Hot or cold liquids or foods did not seem to aggravate or relieve this at first. Later an attempt to swallow anything caused a great deal of pain. Had noticed a very foul breath and incessant desire to expectorate for past few days. Swelling and aching under the tongue and at the angle of the jaws present for twenty-four hours.

Objectively, the patient presented the symptoms of mercurial salivation. The breath was very foul, expectoration was frequent but not copious, the sublingual and anterior cervical glands were



enlarged and tender. The parotid on the left side was visibly enlarged, and the wide opening of the mouth was impossible without great pain. There was evidence of pyorrhoea alveolaris, and on close microscopic examination of the expectoration it seemed to be true pus, stained slightly pink with blood. The tongue was swollen and covered with granular patches that bled easily. Pus was seen oozing from under the tongue and from the region of the tonsils.

I informed her that in my opinion she should consult a throat man as her trouble seemed to be of tonsillar or pharyngeal origin. Her hesitating manner of answering my questions, and her refusal to consult another man led me to a closer questioning that elicited the confession of the practice of a sexual perversion, fellatio, with her sweetheart. Microscopical examination showed typical intracellular gram negative diplococci. Later cultures proved the organism to be the gonococcus.

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#### SHRAPNEL BULLET IN BLADDER: REPORT OF A CASE.

Dr. D. Penhallow, of the American Women's War Hospital, South Devon, England (*Boston Med. and Sur. Jour.*) opens his report with the statement that the more one sees of war-time surgery the more strongly is the fact impressed upon one that oftentimes bullets will do the most unexpected things as regards their course, and at the same time will do comparatively little damage.

The following case illustrates these points very well:

W. R., aged 20, sapper, was wounded at Ypres on May 26, 1915, by a shrapnel bullet from a shell which burst about fifty yards from where he was standing. He walked a distance of six hundred yards to the dressing station, where the wound was dressed, and then two hundred yards farther to the ambulance. In the ambulance he was taken to a general hospital and kept for four days; then sent to England, where he was admitted to the American Women's War Hospital on June 1, 1915, with the following history and examination:—

Well developed and nourished youth; able to walk without discomfort. Temperature and pulse normal. In median line of back at lower end of sacrum is a small penetrating wound  $\frac{1}{2}$  in. in diameter. About this wound is a small area which is somewhat reddened. No pain or tenderness on palpation or when he walks.

No discharge from wound save very slight amount of sero-purulent exudate. No sinus made out. Patient feels perfectly well, but states that he has difficulty in urinating, especially when he stands erect. At such times the stream will start normally and will then be checked suddenly and this is associated with considerable pain. When he lies on his side he has no difficulty in urinating. He also states that when he is lying down and turns over he can feel something moving about his bladder.

For the first two days after being wounded, urine was slightly red in color and the first bowel movement was slightly streaked with blood, but there is now no macroscopic blood in urine or stools.

*Rectal Examination* reveals a firm sinus tract adherent to rectum, passing around to the left and then straight towards the bladder. No opening in rectum; no tenderness and no masses felt.

*Urine Examination* shows normal urine save for a slight amount of blood and pus.

*Cystoscopic Examination* shows a rounded mass lying just to one side of urethra. Mass moves when patient turns. Wound in bladder wall not made out.

Stone searcher passed into bladder shows the presence of a metallic foreign body.

June 29, 1915, ether and operation. Suprapubic cystotomy. Bladder opened through a small incision and bullet located and removed by bullet forceps. Wound in bladder closed tightly. Small drain to prevesical space. Constant drainage.

The foreign body removed was a lead ball  $\frac{1}{2}$  in. in diameter, and at time of removal was becoming encrusted in several places with salts.

Following the operation patient had an uneventful convalescence and the wound was entirely healed in two weeks. Since that time patient has felt well; he can pass urine without any further trouble and will soon be able to return again to duty.

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#### PREVENTION OF EXTENSION OF GONORRHEA TO POSTERIOR URETHRA.

Dr. Herbert Schoenrich (*N. Y. Med. Jour.*) has devised an apparatus to prevent gonorrheal infection being spread to the posterior urethra by injections. It consists of a prop for making perineal pressure, a platform with a notched extension, the latter regulating the height of the prop. The patient stands on the

platform and places the prop in such a position that pressure is brought upon the perineum just anterior to the anus. This is about the region of the membranous urethra, and sufficient pressure will easily occlude the canal at this point. With the apparatus properly applied, thereby shutting off the posterior urethra, and the fingers closing the meatus, the injection fluid is within a closed tube and may be easily retained for an indefinite period, for if one stops to consider the anatomical pathological condition in a case of anterior urethritis, it becomes evident that the prime essential in the treatment is prolonged contact of the medicament with the affected mucous membrane, and whenever possible, to have the urethral canal distended, and the injection fluid, as it were, under pressure so that it may penetrate the follicles and glands of the urethra, thus affording it a real opportunity to destroy the gonococci.

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#### THE BIRTH PROBLEM AND THE WAR.

Dr. Felix A. Theilhaber, *Z. Sexualwissenschaft*, II 194. The author points out that the conditions following the present war will in no way resemble those following the war of 1870. That war lasted but nine months, only a part of the available men were called out and there was an indemnity thrice as great as the cost of the war. The economic conditions were therefore better after the war and the growth of industry and population were all that could be desired.

In the present case, more men are in the field but even if the actual loss of reproductive stock is without great effect on the population, there is certain to result an economic condition which will limit the offspring to a notable degree. There is the advantage in this war that not all of the best stock is destroyed, since trench fighting permits the use of inferior men, and the danger of epidemics destroying the women at home is also much less than heretofore. Nevertheless, the fall of the birth rate is inevitable and the problems will be serious.

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#### THE MALE CHILDBED.

Dr. Goerg Buschan. *Z. Sexualwissenschaft*, II 203, 1915. From earliest times unto the present there have appeared notices of a curious custom whereby the father of the child went through certain odd ceremonies in connection with his wife's con-

finement. In general this ceremony consisted in the father going to bed and pretending more or less to go through the same suffering as the mother. He was visited by his friends, presents might be given, and certain restrictions placed upon his diet. This custom seems to have been distributed all over the world at one time or another.

From the evidence obtainable it is inferred that this custom has its roots in the period of mother-supremacy when a certain promiscuity was the rule and the rights of the child derived solely from the mother. It is suggested in explanation, that in the transition stage, this custom had as its purpose the claiming of his rights in the child by the father. Through this ceremony he asserted an equal claim upon the child and presumably upon the property. The evidence offered in support of this explanation is quite satisfactory.

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#### SUPERNUMERARY KIDNEY.

Dr. H. L. Kretschmer, Chicago (*J. A. M. A.*, Oct. 23, 1915) reports a case of the rare condition of accessory kidney, with only two ureteral orifices into the bladder, the two ureters of the same side of accessory kidney joining before reaching the bladder. The rare occurrence of the condition, the scarcity of case reports and lack of detail in reporting cases leave much to be desired in our knowledge of the subject. There was nothing in the history, cystoscopic examination, or Roentgen-ray findings to lead one to suspect the anomaly. It is the only one, so far as Kretschmer knows, in which two of the three kidneys were the seat of calculus disease.

## BOOK REVIEW

INTERMEDIATE TYPES AMONG PRIMITIVE FOLK. By Edward Carpenter, (Kennerley, New York, 1914).

When a college president advises the students to imitate the Greeks he never mentions that rather important, though infamous, institution known as comrade-love. That such an institution could be in any way essential to, or other than destructive of, the virtues which he desires imitated has not occurred to the learned mentor. On the other hand, the student who knows nothing and cares less about the Greeks, is apt to smile sardonically and dismiss the advice. For in our ignorance we know nothing of the intermediate, and pervert is the most euphonious epithet we apply to him. We wise and civilized ones have accepted in toto the churchly estimate of passion, but since practical difficulties stood in the way of accepting it in heterosexual relations we have perhaps compromised by transferring the theological odium to homosexual emotions in which the most of us are not so deeply interested. Scholars have slurred over this phase of Greek civilization as utterly vicious and in no popular book has there been any attempt to understand this phase of Greek culture. Mr. Carpenter starts with the assumption that a custom so widely practised and intertwined with the emotional life, must have had an appreciable influence on this remarkable people. It is an understatement to say that he has proven his contention. The book is judicial yet sympathetic in the presentation of evidence.

After a brief preface the author discusses the intermediate; as a prophet or priest; as a wizard or medicine man; as an inventor of arts and crafts; and the significance of hermaphroditism among gods and mortals. Evidence from tribes in both hemispheres is offered to show that there is a close relation between the Uranian temperament and the functions of the primitive priest or medicine man. It is reasoned convincingly that the Uranian temperament, combining as it does the feminine intuition with the male logic and initiative, would develop powers of divination quite impossible for the primitive normal. Further, since this temperament does not easily conform to the pot-filling interests of the male or the domestic occupations of the female, his conscious difference from his fellows compelled the intermediate to seek other means of expression. From this arises his large share in the development of primitive ideas of religion, art and science.

The second part of the book deals with the intermediate as a warrior. Here we find a satisfactory interpretation of the Dorian military comradeship. It is shown how these rather pas-



sionate friendships penetrated the whole social fabric, both religious and secular. It is also made clear that it was not a mere physical attraction, since the adjective used by lovers was not 'beautiful' but 'good' or 'courageous.' The boy was the pupil of the lover and from the mutual desire to prove worthy arose the heroic exploits of which we hear so much. Our Christian tradition has enacted that the father or some great person shall be the model for youth. Unfortunately, the father is seldom temperamentally fitted to win his son's admiration or confidence, while the lives of the presidents are not only dull reading, but in these muck-raking days rather unsafe and always a bit remote for the youth who desires someone with whom to fight out his intellectual problems and whose encouragement is not so impersonal. It is difficult to avoid the cynical reflection that seldom indeed is the father fit to associate with his son, even did our social pace leave him the leisure.

Neither was the Dorian comradeship based upon a degraded status of women, since the institution at its prime coincides with the period when women were most independent, while the degradation of women in the later eras follows closely the decline of comrade-love. Among the Samurai of Japan where the same relations existed, women were held in higher esteem in those provinces where these military friendships were strongest. It is obvious that when the history of the 'woman's movement' comes to be written, the influence of the intermediate cannot be ignored.

The book is rich in citations and references and is a convincing presentation of one sadly neglected, socially regenerative power. To most of us the expression 'invert' or 'pervert' means only one thing and that a very disgusting one. We fail to see that inverts, like normals, are of very differing spiritual capacities. The conventional notion of an invert is quite as vulgar and disgusting as that of his normal analogue, the roué. It is not of these that Mr. Carpenter is writing.

Just as our normal sex life has become a mildewed and rotten thing from too long confinement in our unventilated cellars, so has the intermediate's impulse been corrupted. This volume indicates a social leaven which we neglect at a great loss to ourselves.

The book is rich in suggestions and will come as a breath of clean air to those whose only acquaintance with the intermediate is confined to those unfortunates who throng our streets, hotels, and ocean resorts.

# THE AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY

WILLIAM J. ROBINSON, M.D., EDITOR.

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VOL. XI.

DECEMBER, 1915.

No. 12.

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Translated for the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## SEXUAL HYPOCHONDRIA AND MORBID SCRUPULOUSNESS.

BY MAGNUS HIRSCHFELD, M.D., Berlin

**A**MONG the sexual neuroses, sexual hypochondria and morbid scrupulousness form a very distinct group. Every physician who has a large practice has seen in his office patients who abandon themselves without the slightest reason to the greatest worries over their sexual life. In certain cases the physician confines himself to allaying the fears expressed to him, assuming that he has to do with a normal man who solicits from a professional an opinion which as a layman he wouldn't dare to formulate himself. In other cases, however, the physician realizes that he is in the presence of a hypochondriac, but believes, nevertheless, not without good reasons, that the case is not to be taken any more seriously than any case of hypochondria affecting any other organ. But sexual hypochondria is very much like sexual neurasthenia; while the latter is like any other form of neurasthenia a sign of weakness of the nervous system, at the same time, its sexual etiology and symptomatology place it in a class all by itself. So here also it is the sexual factor which puts upon the disease its peculiar stamp. It is therefore well to devote a special chapter to sexual hypochondria both as a form of hypochondria and as a form of sexual disturbance.

A large number of hypochondriac sexual troubles present themselves to us under the form of sexual phobias. The best known of them, though not by any means the most frequent, is syphilophobia. Every venereal specialist knows the syphilophobic, the worried and in the long run the wearisome type who sees in the slightest redness of his glans a primary lesion and in the slightest pharyngeal catarrh a syphilitic chancre; the self-torturing

type of man who while scrutinizing his own body from head to foot finally stumbles upon some blotch or pustule which has a distant likeness with the luetic eruptions he has found described in medical atlases, lexicons and encyclopedias. In their ignorance of anatomy, such people are often puzzled by perfectly normal parts of their body which they had never observed before and which they suspect of being pathological growths. When they feel in the depth of the tissues a tiny lymphatic ganglion, they imagine that it is a luetic bubo. If after a sexual contact they notice that the lips of the meatus are a trifle swollen, they believe themselves infected. It is the sulcus coronarius glandis, so rich in veins and glands, which they investigate with special predilection and suspicion. Those people often waste half an hour a day or more inspecting every inch of skin or mucous membrane which happens to be within their range of vision, with sometimes the assistance of a hand or wall mirror.

Those worries are sometimes justified as these people may have had syphilis in the past. The majority of them, however, never had syphilis nor did they indulge recently in intercourse that might be considered as a possible source of infection. Some of them may have read that there are cases of indirect infection, for instance through toilet seats, on which the typical sexual hypochondriac only sits with hesitancy after covering them up carefully with paper.

I treated several years ago a patient who used to bring to my office every month a girl whom he wished me to examine before he had any contact with her. In spite of the assurance I gave him that the woman was perfectly healthy he would come back to me after coitus (although he never performed the act without a preservative) and show me all kinds of suspicious spots, mostly innocent acne pustules.

Those people keep themselves well posted about the latest scientific discoveries. Ever since reports of Wassermann's experiments have been published, they like to have their blood tested. Even if the test is negative they are not by any means convinced that they do not have syphilis.

Gonorrhoea hypochondria is quite as frequent as syphilophobia. The slightest clouding of the urine is suspected of containing gonorrhoeal filaments even when the patient never had gonorrhoea before. You may explain a thousand times to those people that the secretion they squeeze out of their urethra comes

from their prostate or from their Cowper's glands; they will not feel satisfied until they find a quack, one of those whose advertisements offer advice and help in secret diseases, and who tells them that they have gonorrhœa, although it may only be due, as they add mysteriously, to over-stimulation.

A large contingent of the sexual hypochondriacs constitute the masturbation hypochondriacs who in constant fear of the consequences of their bad habits cannot enjoy any of life's pleasures. Besides, they reproach themselves severely for yielding to "the sin of the flesh," to their "secret vice" to "curse of self-pollution," as they are wont to designate masturbation.

Just as the syphilophobic finds satisfaction in listening to the quack, the masturbation hypochondriac feeds his worries upon the mountebankish pamphlets which in order to advertise a cure or a method of treatment depict in the darkest colors the consequences of youthful indiscretions or youthful errors, and are responsible for the suicide of many a young man.

Many of those hypochondriacs imagine that the ejaculation they provoke artificially comes directly from their spine or from their brain which is likely to dry up on account of their practices; they fear a spinal lesion or loss of memory. This is, by the way, a very old medical superstition: we read in the Talmud: "if anyone indulges in self-defilement his brain will dry up so that it will be heard rattling in the skull." I have met men of a certain age who were still afraid of developing spinal lesions because they had masturbated twenty years or more before.

One thing which worries particularly masturbation hypochondriacs is the fear that people may recognize from their appearance that they have been indulging. They examine their faces carefully before their mirror and are terribly downcast when they notice under their eyes dark rings which in reality have nothing to do with the masturbation.

A young man whom I treated years ago imagined that owing to his self-indulgence his hair had become thin; he didn't dare to go into a theatre, a concert or a lecture hall for fear people might notice it. This man had masturbated with unusual frequency, 3 or 4 times a day for ten years, but he was very robust in spite of it.

While masturbation is almost as common among women as among men, sexual hypochondria in general and masturbation hypochondria in particular are less frequent among the former.

I have observed, however, a number of married and unmarried women who suffered from severe anxiety neuroses due to their indulgence in masturbation. One woman had acquired the habit of masturbating after coitus. Her husband suffered from *ejaculatio præcox*, a frequent cause of masturbation in married women, as it arouses them but affords them no relief from the resultant nervous tension. Later she began to masturbate without any previous coitus. She came to consult me thinking that her self-indulgence had brought on a sexual disease. She condemned herself very severely and I had all I could to convince her that her secretion was merely a harmless leucorrhœa.

Related to the masturbation hypochondriacs are the pollution hypochondriacs who cannot free themselves from the idea that every involuntary emission of semen is a serious pathologic symptom to which must correspond a notable weakening of their body.

As a matter of fact we don't know definitely whether pollutions are pathological or merely physiological phenomena.\* We shall not mention the dangers and the harm which are attributed to them by the type of sexual hypochondriac who for instance keeps a record of every one of them, just as certain masturbation hypochondriacs keep marked calendars and diaries. Those people derive very little comfort from consulting a physician who instead of stopping their pollutions simply tells them that for a man living in continence three or four pollutions a month do not mean anything whatever. There are people who believe that not only masturbation and pollutions but even coitus, lawful or extramatrimonial, is detrimental to their health.

These coitus hypochondriacs worry their physicians but they worry themselves even more. They often set a definite limit to their sexual activity, three or four intercourses a month and they are greatly exercised when, as happens almost unavoidably, they overstep that limit. Immediately after the consummation of the act they begin to grumble, to curse their weakness and berate not only themselves but their partner with the utmost severity. They make their wife swear or at least promise that she will not let herself be tempted again; I have known of divorce cases in which

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\* They may be both. While there is no direct line of demarcation between the two, still no experienced physician will have much difficulty in determining whether a given patient's pollutions are normal or have crossed the boundary line of the abnormal or pathological.—Editor.



some sexual cowards would, after every coitus, abuse and brutalize the woman whom they had just covered with caresses.

Such an attitude cannot be explained satisfactorily by the reaction which follows upon coitus, before a feeling of balance and repose has again pervaded the nervous system, that phenomenon which is expressed through the famous adage "omne animale post coitum triste;" moral factors play in this respect a less important part than the hypochondriac obsession that coitus as such is detrimental to mental and physical health.

Much more important than the foregoing forms of sexual hypochondria is the impotence hypochondria. In this case as well as in the others we notice that the patient is in normal health, that is to say, his impotence is not due to any objective cause. The sexual urge is normally directed toward woman. We find neither fetichism nor antifetichism, neither sadism nor masochism, neither homosexuality nor any other perversion or inversion affecting the sexual powers. Organically everything is normal. But we do observe signs of general irritability and nervous weakness, together with an increase of the reflexes (especially of the cremasteric reflex) and of the vasomotor excitability. In connection with this we observe erythropobia, the fear of blushing, which even when it appears isolated, always seems to have a psychosexual origin. The only thing that ails the impotence hypochondriac is lack of self-confidence. Many of those people were unable to perform the sexual act the first time they consorted with a prostitute; neuropathic as they are, they do not dare to make any more attempts for fear of the humiliation failure would occasion them. While they know very well that honor and erection are not synonymous, they nevertheless consider their lack of erection as a curse and a stain on their honor.

The worst about those cases is that impotence hypochondria as well as imaginary impotence may result in actual impotence. The fear of possible weakness causes an inward trepidation which is anything but favorable to an erection. The expectation of failure acts almost as a suggestion. I have seen men already near forty who did not dare to approach a woman much as they desired her. Now and then they would summon all their courage; but the nearer the goal they were, the more bashful and awkward they became and when one word would have sufficed to achieve success, they fled to their homes to seek the miserable substitute for intercourse, solitary gratification.

A year ago I treated a chemist who has since been killed in the war. He was a distinguished, highly intelligent type of a man. He was then 36. At 23 he was engaged to a girl with whom he was deeply in love, and who a month before the date set for the wedding lost her mind and was committed to an insane asylum where she still is at present. He suffered terribly when the engagement had to be broken. Later he went to America and sought consolation and oblivion in extremely active work in which he was successful. At 30 he decided to visit a brothel and met with failure. After that he was absolutely convinced of his impotence. Just before he consulted me he had made another attempt with a little success as the first time. Psychotherapy, especially persuasion and hypnosis restored to him his self-confidence to such a degree that about a month later he made overtures to a young woman and became her lover. They were very happy together, travelled in Switzerland, from where he was called back by the outbreak of the war.

It is a little known fact that there are in Berlin and other large cities "women specialists," belonging mainly to the better class of prostitutes who earn a livelihood by "treating" the impotent. They take great pains and often obtain very good results.

In cases of conjugal impotence it is advisable to enlist the help of the patient's wife. By using the tact which is the prime requisite of a sex specialist, much can be accomplished. For there are cases of impotence in which the patient's wife can bring about a speedy cure simply by seconding properly her husband's efforts.

I make it more and more a rule in cases of hypochondria due to conjugal impotence to see to it that the husband gives me a chance to talk things over with his wife. This has proved so helpful that I have come to consider the treating of the husband alone without calling in the wife's aid a practical error.

In many cases impotence hypochondria assumes rather the character of sexual overscrupulousness. The difference is this. The hypochondriac is convinced that he is simply unable to have sexual intercourse, the man suffering from sexual scrupulousness thinks his impotence is due to this or that reason. Both are the victims of autosuggestion. Very often the man worries over the woman's sexual organs, less frequently but not very seldom over the conformation of his own organs. It is especially during the

engagement period that men begin to doubt their sexual powers. Many a bridegroom I have had to drive, so to speak, into the bridal chamber. Some think that they could not perform the act because of their lack of knowledge of the female organs; whenever they consort with prostitutes, the chief difficulties are surmounted with the woman's assistance. The eager study of anatomical charts gives them little enlightenment.

There is also a type of man who might be designated as defloration hypochondriac. The cleaving of the hymen appears to him a task to which he is not equal. One of my patients had been married eight years but had never been able to make up his mind to deflower his wife; he thought he did not have the necessary physical strength and besides could not help considering the act as a sort of physical violence. I performed the operation surgically and the man has since then become a father.

Some men are obsessed by the idea that their wife is "built too narrow," an idea, by the way, which is held by many laymen. When mere suasion does not produce results the physician must in such cases resort to more realistic methods. I once offered to the husband to widen his wife's vagina by means of specula of increasing size. I introduced several glass specula into her vagina and he went away quite comforted when I showed him that the last speculum I used was sensibly larger than his penis.

I have found it harder to allay the patients' worries over their own sexual organs. Those worries assume to a certain degree the character of compulsion neuroses according to Westphal's interpretation of the word, or of what Magnan calls obsessions. There are men with fully developed organs who imagine that their member is too small, and that, in consequence, they cannot get married, for any woman would laugh at them. Others torture themselves with the idea that their penis is too large; they are afraid of hurting the woman. Some imagine that it has been deformed by excessive masturbation or that it should, while in erection, point upward instead of downward. Some stand before a mirror and discover that their right testicle hangs lower than the left one; they think their doctor is only trying to comfort them when he tells them that most people are built that way and that it makes no difference. Some worry over the small size, some over the large size of their testicles. I had occasion to observe with Dr. Burchard a curious case of obsession. A man of 50 thought that his scrotum (which was perfectly normal in size) was much too

small. He wished to know whether there wasn't some means by which it could be made to hang as low as the middle of the thigh. He wished us to do it through injections of paraffin. It is hard to imagine how much that man worried over that grotesque idea; he wept like a child when we refused to give him satisfaction. We were his last hope, he told us. I have known of many men who imagined that they were hermaphrodites. When examined they would show the prolongation of the scrotal raphe at the perineum which they imagined to be a rudimentary or blind vaginal opening.

While it is all very well for those contemplating marriage to think things over, there are cases in which hesitancy and over-concern assume a decidedly morbid character. I treated recently a young man of 28 who had engaged himself to a young girl of 20. The day after the engagement took place, he brought his fiancee a ring and then noticed that her fingers were "repulsively thick and red." Above all things he thought the girl received him too coldly. He felt clearly that she was only taking him for the sake of his money, as he was very well to do. This impression became deeper and deeper and the following Sunday when the two families met to celebrate the occasion he broke the engagement. His conscience began immediately to trouble him. Day and night he plagued himself with the thought of the injustice he had done to the girl. He begged for forgiveness and wrote asking once more for her hand. As soon as she took him back his doubts returned. A week later the engagement was broken once more. Twice again he went through the same performance. After his fourth engagement he came to me with his father, in a condition of despair, haunted by ideas of suicide; he no longer knew what to do. We decided that the engagement should be broken definitely; but it took him a long time to regain his former equilibrium.

While such exaggerated cases are comparatively rare, cases of less gravity are very common. I have gradually come to the conclusion that the hesitancy due to sexual hypochondria and morbid scrupulousness is, with sexual perversions, one of the most frequent causes of celibacy.

Such cases are less frequent among women. Yet I had to treat once a telephone girl who had been brought to me by her fiancé. In this case too the engagement had to be finally broken after the date of the wedding had been set as many as six times, and postponed every time at her request a few days before the wed-



ding. Jealousy often is the origin of certain obsessions. A patient of mine was obsessed by the idea that his wife had not been a virgin when he courted her. That suspicion had crept into his mind before the wedding and had been strengthened by the fact that the first connection had been relatively easy. He had never revealed to his wife the actual reasons for his moodishness; but he couldn't go on that way and insisted on knowing the truth.

Many neurotics suffer intensely from a jealous obsession based upon the relations which they imagine their wife or bride once had with some other man. Sometimes those ideas repose on no foundation whatever; sometimes a neurotic plies the unfortunate victim of his love with so many pressing questions that she finally confesses to having cared for somebody many years before. A colleague of mine who had consulted many other physicians besides me, felt inexpressibly jealous of a man who had been dead many years. After pestering his bride with questions he had finally made her confess that the man had once tried to have intercourse with her. He wanted to know whether under the circumstances he could marry the girl.

In the past few years I have frequently observed among married people the delusion that either wife or husband is homosexual.\* After the Moltke-Harden scandal such delusions cropped up like mushrooms. A workingwoman asked me recently to talk her husband out of the idea, which caused him to plague her constantly, that she had homosexual tendencies. When I asked the man to come and see me he related that a young woman on meeting his wife had moved the tip of her tongue between her lips; this had confirmed the suspicion he had had for some time. The absolute confidence which the victims of such delusions show fairly remind one of paranoia.

This feature is especially striking in one variety of sexual sufferers with which I will now deal briefly.

They are men and women, the majority though not all of whom, have abnormal sexual feelings and in whom an actual persecution neurosis has developed. One of my patients imagined that people suspected him of homosexual practices because he wore no wedding ring. He would not listen to the very obvious advice I offered, that is to wear a ring, so as to free himself from that worry.

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\* This is not the case in this country. Only an insignificant fraction of the people know that there is such a thing as homosexuality.—Editor.



Many people who for years have indulged in abnormal practices are terrified by every ring of the door bell. "I am found out" is the first idea that shoots through their head; "the secret police is at the door prepared to arrest me." In every telephone call they suspect an attempt at blackmail. On the street they imagine they are shadowed by detectives. "I wish I could find an apartment into which people couldn't peer" said a patient who for 12 years had been depicting to me the persecution to which he had been submitted by neighbors, janitors, tradesmen and other people. Such fits came over him periodically. The last time I saw him he hadn't dared to go home for five days. A man whom he thought to be a detective had been walking up and down in front of his house, undoubtedly to find out who came in and went out. It was very difficult to appease this patient. He finally returned to his apartment accompanied by an attorney friend of his, but it took him some time before he could believe that the innocent cordiality with which the other tenants greeted him was not pure hypocrisy. He expected to be arrested, although there was no reason to fear that the sexual practice in which he had indulged could have become known to any third party.

"At the hotel," those unfortunates say, "the waiters stare at me," "the guests at the next table make remarks about my shape," "everybody in the place knows about it, people whisper and when I come in they all stop talking." "At the office they receive me with freezing silence, or ironical glances or repressed giggles." If at the coat room they are given a check numbered 175 [the number of the paragraph in the penal code relative to homosexual practices] they think they have been found out; if the name of a famous sexologist is mentioned in their presence they construe the remark as an allusion to their abnormality. They do not dare to show too much affection to a child for fear their attitude might be ascribed to sexual motives; the papers mention so often people whose friendliness was dangerous to children. They feel terribly upset when a person of their sex innocently walks with them arm in arm. They know that if anyone should see them then, they would be absolutely compromised. Very often they select as companions people they simply cannot bear. A homosexual lawyer used to show himself everywhere with a beautiful woman whom he designated as his "proof of alibi."

Those people open with trembling hands envelopes directed in an unfamiliar handwriting and which might contain threats

of exposure. A communication bearing an official stamp throws them into the most absurd fits of terror.

Even when they consult people whom they know to be bound by professional secrecy, physicians or lawyers, they introduce themselves under assumed names. I treated for some time a student who told me his name was "Samter" [derived from the German word which means velvet]. I never suspected that this was not his real name until in the course of a conversation he revealed to me his fetichist inclination for velvet and similar fabrics. "That is why you selected the name Samter" I remarked to him, and he blushing confessed.

Persecution neuroses are sometimes accompanied by sensory delusions. The patients assert that people make obscene remarks to them, to show that they consider them as abnormal persons. I have two patients suffering from that form of aberration. Both are spinsters of about forty-five. They are not homosexual but they imagine they are taken for such by all kinds of people. One of them would never remain alone in a room with another woman on that account.

It is especially during the male and female climacteric that one can observe that condition which only differs from paranoia in one respect: the prognosis is much more favorable. In many cases, however, those unfortunates do not wait for an improvement of their condition and they, in order to escape their imaginary tormentors, put an end to their miserable existence.

I will now say a few words about the prognosis and therapy of sexual hypochondria and morbid scrupulosity. As I have already remarked, the outlook is not unfavorable in a large number of cases, although the treatment taxes sorely the patience of both patient and physician. In certain cases, for instance, in impotence hypochondria and in masturbation or pollution hypochondria the prognosis is generally good. It is not so good in fixed obsessions or in jealousy neurosis and it is decidedly bad in the paranoid forms.

Combined psychotherapy: persuasion, suggestion and hypnosis, is the first therapeutic method to be applied. If the sexual worries are due only to sexual ignorance a serious process of enlightenment may relieve the mental tension and bring about a cure. Physicians skilled in psychoanalysis will obtain good results from it, for there is no doubt that from an etiological point of view, sexual repression, and childhood influences and discipline have a good deal to do in these cases. The physician must also

endeavor with the help of all the medicinal, dietetic and physical methods of treatment to increase the patient's force of resistance and to allay his nervous agitation. Much depends upon the personality of the physician in whom the patient must have unbounded confidence; else he will break away and fall into the hands of quacks.

The existence of sexual hypochondria alone would justify the introduction of sexual teaching into medical courses in order that practicing physicians may be able to give the unfortunate sufferers competent advice and assistance. Sexual anxiety neurosis is a typical disease of modern times. It is hardly believable that there could have been as many genital hypochondriacs among the old Greeks or the ancient Germans. We lack the hedonism of old, the naive, genuine sexual enjoyment which shunned excesses, without however falling from one extreme into another extreme which is worse yet.

Sexual science free from all prejudices must repair the damage done to mankind by sexual superstition prompted by the religious idea of sin.

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Translated for the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## THE DOUBLE STANDARD OF MORALITY

BY PROF. CHRISTIAN VON EHRENFELS.

The existence of a double standard implies two things: a potent factor of a great step forward and a fatal misunderstanding. By the double standard we generally understand the hypocritical morality of Western nations according to which men, be they officials, teachers, fathers or husbands, pose as the determined defenders of a monogamous single standard and then indulge secretly in every form of immorality.

Deplorable as that state of affairs may appear it would be a grievous mistake to use it as an excuse for establishing a single standard for both sexes. A single standard of morality would make upon both sexes uniform demands in the very domain wherein they differ most, the domain of procreation with all its relevant urges and instincts. We face here a serious biological peril.

For it is only when the specific activities of both sexes and with them the moral code governing those activities are clearly differentiated that the race can thrive and remain healthy. As soon as the attitude of both sexes, especially toward the questions

of wooing and of sexual gratification, becomes too much alike racial soundness is in jeopardy.

Selection serves in the entire organic world as a factor in the survival and development of its species, varieties or races; selection eliminates the individuals who are not fitted for the life struggle and prevents them from reproducing themselves; of all the forms of selection, virile selection, that is the male's fight for the female is the most important. Virile selection cannot take place, however, unless the attitude of both sexes is clearly differentiated at the time of wooing and pairing. Virile selection demands the elimination of a large proportion of males capable of reproducing themselves, but sexually inferior; and consequently the male sex is expected to display a great deal of activity and to woo many females while the female is expected to assume a passive attitude.

Among animals, at mating time, any female is attractive for any male; women, on the other hand, attract men for special esthetic reasons; if all women were ready to consort with any men, all the men would satisfy their desire with a minority of the most beautiful and sexually attractive women and the birthrate would fall below the necessary average. It has then become necessary for woman to only consort with one man, at least while the children are being brought up so as to insure them the father's care and protection.

From this we can judge how detrimental a single sexual standard would be to the race. This, however, is only evidence by deduction.

Some one may ask: Is there historical evidence that any race has deteriorated or died out through adherence to a single standard?

I might answer that question by asking one myself: Is there historical evidence that any race ever adhered to a single standard?

Who could answer this question in the affirmative?

There is only one ethnical group on earth whose system of reproduction has been so dominated by the single standard of morality that we could draw from its present condition of health any conclusions for or against that standard; it is the group to which we belong, the Western nations dominated by the Christian ideal.

But who could say that the single standard of morality obtains among us?

Our double standard, however, only affects the gratification of sexual instincts; it does not affect the process of reproduction and has therefore nothing to do with selection.



Our system of reproduction is more and more dominated by the single standard of morality which makes the same demands on both sexes and therefore does away with the virile selection. We can leave illegitimate children out of the discussion. For one thing the majority of those children are the fruit of monogamous unions which were not legalized; when this isn't the case, they find themselves in conflict with the current morality and are brought up by morally inferior individuals; finally the deplorable conditions in which they are brought up are bound to cause them to deteriorate mentally and physically regardless of the strong constitution they may have inherited.

If a single standard of morality is detrimental to the race, the Western nations must have degenerated under the influence of their monogamic system of reproduction. We cannot very well prove this by comparing ourselves with our ancestors of a thousand years ago. We know too little about the health of the Carolingians to draw such parallels.

We must seek evidence elsewhere. Is there anywhere in the world an ethnical group which has preserved not only for purposes of gratification but for purposes of reproduction as well, its original, healthy, differentiated sexual morality, an ethnical group living like ourselves under civilized conditions, so that we could draw comparisons between its health and ours? In comparison with that ethnical group our own race should show a distinct inferiority in physical strength and endurance.

This hypothesis is confirmed by actual facts in a manner which is most humiliating for us.

The various ethnical groups making up the Chinese nation and which for more than a hundred generations have lived in peaceful union, a unique fact in history, have preserved even with the advance of civilization the natural, healthy, differentiated system of morality which not only is in accord with virile selection but to a certain extent makes it possible.

In that ethnical group polygamy or rather concubinage assures to the man who is successful in the social competition a greater opportunity to reproduce himself. The results of that system respond entirely to the demands of biology. Ethnologists are aware of the fact that as far as physical strength, endurance and resistance to disease goes, in a word as far as what we call health is concerned, the average Chinaman is vastly superior to the average man of the West.



One of the results of this is that in the labor market the Western man is unable to compete with the Chinaman. The United States of America has only been able to cope with this condition by passing exclusion laws against Chinese workingmen.

Monogamy is not, however, the only single standard system of morality. There are many other systems imposing the same duties or granting the same privileges to both sexes. Monogamy is simply the most severe of all systems. It simply restricts the man's freedom to the measure of freedom it can accord to the woman. But many other varieties of single standard morality are possible from this extreme system to the other extreme which extends the wife's privileges until they include all of the husband's. Nobody with any degree of insight will imagine that such systems could be better for the health of the race than strict monogamy.

Those systems are simply various forms of immorality tending more and more towards mere promiscuity and sexual anarchy. They not only preclude virile selection but make women unwilling to bear children and cause the birthrate to fall below the necessary minimum.

History tells us that whenever loose forms of single standards prevailed, as for instance in the Roman plutocracy at the time of the Empire, the classes of the population thus affected very soon deteriorated biologically and died out.

Monogamy is of all the forms of single standard moralities the one which is best adapted to the conservation of the racial health, the one at least under which racial deterioration proceeds most slowly. But the facts I presented above prove abundantly that races which reproduce themselves through monogamistic unions cannot preserve for ever their physical robustness. And this is enough to make us reject the single sexual standard if we wish as a race to come up to the demands of the future, if we are loath to see ourselves counted among the dead.

Is it worth while to enumerate the other harmful effects that could result for civilization from the adoption of a single moral standard? After the reasons I have mentioned before any other reasons may appear very trifling indeed.

The majority of our sex reformers preconize as the best weapon in the fight against the deplorable consequences of the double standard the adoption of a single standard for both sexes. That single standard has proved to be very pernicious from the point of view of race hygiene and is therefore unsuitable for a race desirous to survive.

A single standard morality or, as least, its outward procreative manifestation, permanent monogamous marriage, does not by any means obviate the abuses resulting from a double standard morality; on the contrary, it encourages them and is always accompanied by them.

Man's polygamous instincts cannot be suppressed by statute. The moral demands made by the permanent monogamous marriage are too burdensome for the majority of men. One cannot expect the great majority of men of any race to enter the bonds of permanent monogamous marriage without having ever found out personally what sexual intercourse was like. Neither can we expect from the few men who only find that out after marriage that they will be all their life satisfied with that one experience.

Whenever official morality makes such exaggerated and unnatural demands men will resort to surreptitious intercourse in order to gratify their sexual instincts and they will drag to ruin some of the loveliest women. The whole thing only means: lies, hypocrisy, brutal overpowering of the weak who are then called whores, unmarried mothers and illegitimate children . . . .

There is only one way of breaking that chain of disgraceful evils, that is to recognize frankly and honestly that there must be a different standard of natural healthy morality for each sex.

This morality and the sexual and family life based upon it would not make the hetaira superfluous in our social system. On the contrary if a large proportion of individuals sexually inferior were excluded from participating in the process of reproduction, many more hetairas would be needed.

If we recognize officially a double standard of morality men would no longer need to conceal the gratification they found with hetairas.

Polygamous family life would develop in both sexes the highest and noblest form of procreative instinct, the conscious desire to bring into the world a large number of superior children.

The development of that instinct would do away with the debasing attraction the prostitute has for men and with the secret desire women, those at least living in large cities, may have to lead the life of a prostitute. It would also put an end to the brutal treatment meted out to the prostitute. After recognizing a double standard of morality, society could accept the hetaira as one of its members and accord her the position to which she is entitled, a position not as high as that accorded to the wife and mother but compatible nevertheless with a measure of self respect.

Oriental prostitution which, in many ways, esthetically and morally, in a word humanely, is so much nobler than ours owes its status to the public recognition of a double standard of morality, the hygienic advantages of which are very obvious.

Guilds of oriental prostitutes enforce the medical examination of the house's patrons under the guise of a bath given by a feminine attendant before intercourse takes place. It is not until like customs are adopted in our Western countries that we will be able to wage an effective fight upon venereal disease.

There is a point, however, on which we cannot and should not imitate the example of the Asiatics. The form of marriage current in Asia and based upon the double standard of morality is polygamy. This was the usual form of marriage among our ancestors when they were still in a condition of savagery. When that form of marriage does not degenerate, as it does in the harems of some plutocrats, it keeps the race mentally and physically sound. But it places the woman and her children at the absolute mercy of the man and in a condition of dependence and slavery.

There is no doubt but that it was the adoption of monogamy by the Western nations and the consequent uplift of woman that enabled our civilization to rise so rapidly above that of the oriental races. We must not lose the ground we have won thereby. We cannot return to the oriental form of marriage, to primitive, barbarous polygamy. We could not do it even if we had to obviate at any cost the approaching danger of degeneration. For civilization must not be allowed to regress.

We should, however, establish a sexual *modus vivendi* based upon the recognition of a double standard and which would reconcile the welfare of the race with the lofty position civilization accords woman. This will require a good deal of effort, of creative work of a social nature, the adoption of an entirely new conception of life.

Haphazard marriages and the various experiments proposed by our sex reformers will never accomplish that.

Such an undertaking will encounter many obstacles. Nothing, however, is more worthy of enlisting the cooperation of the noblest men. For it will be left to our children's children to prove the truth of the following thesis:

The adoption of a sexual morality and of a sexual system in keeping with our present state of civilization is a question of life or death for the Western nations.

## IDIOGAMY.

BY PROFESSOR PAUL MANTEGAZZA, M.D., Florence.

**T**o the many known varieties of masculine impotence I think I can add one more which, on the advice of my well known colleague, Professor Comparetti, I shall tentatively designate as Idiogamy. When a man can only have relations with one certain woman or one certain type of women, and is partly or completely impotent in the presence of other types, he can be said to be suffering from idiogamy.

Animals themselves have their sexual sympathies and antipathies. Darwin observed that sort of feelings but he overrated their importance in order to support his theory of sexual selection. We might generally state that when a male at rutting time meets a female who finds herself in a state of sexual excitement, the male is attracted by an irresistible overwhelming power towards the female and tries to fecundate her.

When a young and robust man, of any race, finds himself in a condition of *plethora spermatica*, he can have relations with any woman, be she comely or ugly, young or old, and he is able to possess her even if he doesn't feel the slightest attraction toward her.

In studying the relations between man and woman, however, we must take into consideration many psychical factors, in particular some factors of an esthetic nature, which may interfere with the performance of the sexual act or even prevent it entirely. The best and I may add the healthiest form of coitus is that which is the most automatic and animal, which resembles so to speak an outburst, the one during which the lovers in their sensual feast forget all their hesitancy, silence their remorse and all the inner voices, in a word, when both forget all the buts and ifs.

By performing the act in any other way men and women may be more human and less animal, but they are so mainly at the expense of their love and of their offspring.

The attraction beauty exerts on certain men is such that even the strongest promptings of their sexual need depend upon it and are conditioned by it. Those aristocrats of love are impotent in the presence of homely women; they can only have connections with beautiful women, some only with the most beautiful women, for these only enable them to satisfy their esthetic cravings.

The ideal of perfect love would then consist in selecting among



hundreds and thousands of beautiful women the one who more than any other gratifies our esthetic taste, to possess her and never to desire to touch any other. This ideal is not impossible of realization and in fact it is realized more frequently than we think in every day life.

But we do not always find such exacting esthetic and ethical demands in the hearts of those who try to express them in their life; the truth is rather that they cannot have anything to do with women who differ too much from their ideal.

Idiogamy is due more frequently to esthetic preferences, less frequently to moral preferences. Some esthetic idiogamists for instance can only have relations with fat women, others, less numerous, with thin ones, some only desire blond women, some only dark ones.

We may call idiogamists, in the broadest sense of the word, men who can only have intercourse with women of their own race. And many of us would prove to be idiogamists if we had to enter a union with a Hottentot woman or an Australasian negress.

The clinical symptom of pure idiogamy is then the fact that in spite of the male's strong desire and of the female's alluring caresses a coitus is made impossible by esthetic and ethical factors.

Among the ethical idiogamists we may count those who on account of esthetic considerations and convictions are incapable of performing the act of coitus. A common result of that form of idiogamy is that one may be absolutely impotent with a prostitute while well capable of satisfying other women.

The variety of idiogamy which prevents many from having intercourse with venal women does not always proceed from a lofty moral conscience, that is from the revulsion of feelings which one must conquer in order to exchange embraces and kisses with those miserable creatures. It is often due to the fear of infection, of the dangerous and repulsive diseases that lurk in the genital parts of the prostitute. And in this respect idiogamy is no longer distinguishable from sexual hypochondria which is simply a form of idiogamy. The word could be well used to designate the embarrassment and the feeling of shame which the beginner experiences when he visits houses of prostitution.

A man's desire may be very strong, the woman may fully satisfy his esthetic taste, yet one of the difficulties I have mentioned arises, the man finds himself in the wrong mood and incapacitated. The memory of the first failure contains the germ of the second; the second prepares the third and so on ad infinitum. I could cite



hundreds of such cases and of such failures in love; I will confine myself to mentioning a few which I have observed in the course of my long practice.

A young and vigorous man falls in love with a woman who holds his affection for several months without granting him more than a few caresses. His lovemaking becomes more ardent and his desire increases and finally the woman declares herself won and accepts to meet her lover and to give herself to him. No danger threatens the lovers, nothing lacks for the consummation of their happiness except. . . . erection on his part. She waits. Her kisses, her caresses, her sighs are useless. *Jacet exiguus*. . . . complete failure. The young man leaves her in despair, cursing himself and his bad luck. To find out whether he has become impotent he visits a prostitute and in the company of this cheap mistress he regains his strength and his manhood.

Another man, middleaged, married, and who had until then remained faithful to his wife, meets one day a very ardent woman who falls in love with him and who desires him with a sudden and undisguised passion. She tells him that she will come to his room the following night if he leaves his door open. The door is left unlocked, he holds the overjoyed woman in his arms, they spend the whole night together but he can not satisfy her nor himself. The following night, spent in the conjugal bed, proves to him that he is not impotent.

In many cases idiogamy assumes the characters of an actual psychosis, of a mental trouble, accompanied by moral or esthetic disturbances which contradict the most elementary laws and principles of biology.

I knew a man who could only have connections with very old women or with women who had been disfigured by sickness or presented horrible deformities, and he never liked them so well as when they were coated with dirt and dressed in beggar's rags. Young and comely women left him absolutely indifferent and he was impotent in their company.

This case borders on pathologic love and it would require too much space to relate the many similar cases, less pronounced than this one, however, which I have mentioned in my books on love.

Whatever the cause of idiogamy may be, the fact remains that it is a source of much suffering and depression, which in certain cases leads to despair and suicide. This is where the physician must intervene and he will frequently succeed in restoring to the poor idiogamist his peace of mind and his repose.

The first thing to do in such a case is to institute a psychic treatment and to spare no efforts in order to break down the tyrannic influence which prevents the natural excitement from being felt and which interferes with the erection.

One must follow the mode of treatment I have recommended in cases of sexual hypochondria, which is only a form of idiogamy. Gymnastic exercises, gradually increased, hydropathic treatment, and mild aphrodisiacs help to allay the patient's trepidation at the time of his first attempt and with the help of medical stimulants positive progress can be made.

The first victory is not easily won, but the second will be easier than the first and after that a complete cure will be in sight.

Regarding the stimulants which are needed to overcome the first obstacles and give the patient confidence in his strength, I have found that caffen administered in small doses one day before the intended connection takes place gave the best results.

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Translated for the AMERICAN JOURNAL OF UROLOGY AND SEXOLOGY.

## THE SEXUAL LIFE OF THE HYSTERIC.

BY DR. MARGARETHE KOSSAK, Vienna.

THE male, specialist or other, does not understand the true nature of the sexual life of the hysteric; usually he does not distinguish between hysteria and nymphomania. In the author's experience *the majority of hysterics suffer from complete sexual anesthesia*, while the remainder are more or less frigid. Herein lies the explanation of the fact that the hysteric will publicly describe the details of her sexual experiences when a normal woman would remain silent. The fact that the hysteric's pleasure is entirely in the imagination, and not tempered by reality permits a greater freedom of expression. In part the fault is due to the training of our girls. They are kept in complete ignorance of the actual facts of sex, while their imaginations are over-stimulated by the love episodes of all their reading. In the absence of reality fantasy is highly developed, and uncritically. They acquire no criteria from which to develop a sense of perspective.

It is a *mistake* to assume that sexual desire arises spontaneously in the girl with the advent of sexual maturity. Desire has

always to be awakened, and the seducer is often the fantasy. The pleasure rests entirely in the imagination until the physical awakening. With the anesthetic hysteric this transformation never takes place: instead the fantasy is free to develop without limit. Rape alleged by hysteric girls has its origin here. The course which the hallucinations take is determined by the girl's imaginative capacity and also by the stimuli of her environment. Everything is assimilated, arranged in a logical sequence, elaborated and yet—utterly false.

While some of these fancies are revolting in the extreme, more often they are developed with much artistic nicety and elaborated to such extent that they are not to be understood by a normal person. But regardless of their nature, of their apparent content, they always originate in the erotic sphere.

The most remarkable case in my experience was that of a very attractive and highly talented wife. She was absolutely anesthetic and obsessed with the idea that could she alter her condition in this respect all of her troubles would vanish. She tried every possible remedy, drugs, masturbation, and pushed her husband to the *wildest extremes* in an effort to bring about the change. To her great regret the marriage remained childless. Then her husband's membrum virile became to her a child. She painted a face upon it, dressed it in baby clothes and caressed it as if it were a child. When he left home she would warn him to "take care of our child." The husband tolerated this because of his deep love and sympathy for the wife. Hysterics usually exercise an extraordinary dominion over their husbands. Even though the husband in rage strike down the wife, a revulsion of feeling usually carries him to the opposite extreme of tenderness. The husband in this case was talented, well educated, and of strong will, but where his wife was concerned he was ridiculously weak. Since she was not lacking in self-criticism, she would often say; "If E. was not so forbearing and lovable I would not be in this condition. My former husband was so brutal that I had to control myself." She tested his forbearance to the limit. Like all hysterics she was insanely jealous, without cause, and compelled her husband to wear a chastity-girdle. This he tolerated but once having taken it off because it was uncomfortable, she threw herself from a third story window. She was caught on some projection and remained hanging until rescued by the fire department. Attempts at suicide are usual in such cases and she later spent over seven months in the hospital on account of phosphorus poisoning. The cause of these attempts was always jeal-

ousy, and she made her husband's life a veritable hell. She was indeed a most charming little woman of great bodily and mental charm coupled with the most perverse fancies and impulses. No poet has uttered more poetic and beautiful thoughts than streamed constantly from her lips. But she invariably led the conversation to the topic of sex which made her conversation rather too monotonous. Whatever the topic under discussion she would soon switch the conversation to the one and only subject which interested her, nor was she deterred by the presence of strangers. With a man she had met for the first time she would plunge into a sex discussion and in five minutes be discussing her most intimate experiences. "There is no restraint in me" she would reply when reproached.

*And this woman who had absolutely no other interest than sex, was absolutely anesthetic.* The latter fact was wholly unsuspected by her or anyone else until her thirtieth year. The real situation was discovered accidentally by Krafft-Ebing but only after a long period of observation.

The second case was that of a woman of artistic temperament to whom coitus was absolutely repulsive. Yet she was keenly interested in 'adventures' with strange men. In these she would solicit their company like any prostitute, making the reservation that she was to suffer no physical familiarity. Since this reservation was seldom taken seriously there resulted 'scenes' in which few of her victims escaped without a scratched face as a souvenir, and her own neck and shoulders were scarred with evidences of her struggle to defend herself. This arose from neither the sadistic nor masochistic elements, but merely in the struggle. Her pleasure was derived mostly from the contrast between her own coldness and the man's blazing desire. She would have preferred death to the embraces of a strange man, though with her husband whom she did not love, she had forced herself to do her duty and had four children.

The third case concerns a woman of inferior mental grade, also anesthetic. Finding no pleasure with her husband she took a lover, a most repulsive rat-like fellow. As he seemed to relieve her condition somewhat it is believed that the two were in some degree responsible for the death of the husband. Sex played a rather smaller part in the fantasies of this woman whose imaginative capacity was low. Her erotic fancies lacked the artistic quality of most hysterics, in spite of which or perhaps, because of which her physical anesthesia was of greater practical importance. This woman had the misfortune to conceive readily and underwent four



or more abortions a year. Toward other pains she displayed a childish cowardice, but abortion seemed to give her real pleasure. Similarly she was not troubled by the rather painful examination with the uterine speculum. Many gynecologists assert that such women derive real pleasure from such examinations. I can not agree with them. Rather it results in part from the fact that their anesthesia diminishes the pain and partly from their desire to play the heroic. "The doctor said I was as brave as an Indian woman," said one such with flaming eyes.

I do not assert that the intense sexual interest of all hysterics is due to anesthesia, but it is true of the majority. The "hungry eyes" of which one hears so much occurs only with the class which I am here discussing and the hungriness disappears once the fantasy-play has been carried over into and assimilated by the practical. At any rate these hysterics have one very typical expression which appears only when they are angry at a man. From below or sideways they shoot at him a sinister glance of dramatic rage which is beyond the powers of the ablest tragedienne. One who has seen this look will never mistake its significance.

There are two other characteristics of these hysterics which I might mention. They are always contraltos and the greater the anesthesia the lower the voice. The higher notes in singing can be reached only by a characteristic screeching. The other characteristic is really a character-lack. I do not know how it comes about but it is always present. These hysterics are often very industrious and frugal, and yet lack judgment wasting both money and material. The normal person buys what she needs most and seeks substitutes for the lesser needs. The hysteric reverses the process. If one gives her the material for a waist, she will make it up into smaller articles, strips and bands. This she is compelled to do even when she recognizes and regrets her error. These women who because of their erotic fantasies would like to appear well dressed, never have a piece of decent clothing, and that regardless of their pocket money, yet their wardrobes may be stuffed with worthless trash. One such who was particularly desirous of charming men, especially her husband, bought eighteen waists in five months but not one more expensive than a dollar.

Sexual anesthesia and its consequent phenomena never occur with those hysterics whose symptoms simulate epilepsy. These latter do not scream, the face twists as in pain and they fall like a log. These however, offer little opportunity for studies in the sexual realm.



## THE BLOOD OF WOMAN.

By DR. L. REINHARDT, Basel

**I**N the species man as in every animal species, sexual differences are observable not only in the exterior appearance of the individual but in all the body tissues and in their material changes. And thus the blood of a woman is entirely different from the blood of a man.

The differences become first noticeable when puberty begins. Until then there is very little difference between male and female blood. As soon as puberty has begun, however, the number of red corpuscles found in woman's blood becomes decidedly inferior to the number of those found in man's. While the average number of red cells is five million per c.c. of man's blood, the average for the same quantity of woman's blood is four and a half millions. The red cells contained in all the blood vessels of a man would if spread out cover up an area 45 meters by 45. In the case of a woman the surface covered up would only be 40.50 meters each way. Besides this reduced oxygenating surface, the density of woman's blood is less than that of man's blood. At the age of forty-five, however, that difference becomes less marked, disappears entirely at the time of the menopause (change of life) and is not infrequently reversed, for the blood of an aged woman has a greater density than that of a man of the same age.

American scientists have demonstrated recently that the amount of blood contained in a woman's circulatory system does not increase in proportion to the size of her body as man's blood does; the ratio of increase is inferior in woman.

These various differences are in the last analysis conditioned by the woman's mission, which is to become a mother and perpetuate the race. Pregnancy imposes upon woman conditions which man never has to meet and to which his body is never subjected. The pregnant woman is to a certain extent poisoned by the young human being which is growing in her at her body's expense; her blood must possess certain peculiarities enabling her to counteract that form of poisoning. Those peculiarities baffle us at present for we do not know yet the delicate material changes which distinguish a pregnant woman from a unimpregnated one. We know, however, that during pregnancy minute cells detach themselves from the ovaries and reach the circulatory system of the future mother.

Although those cells are the product of the body itself they are treated by the blood as mere intruders and the toxic danger which they present for the mother's body can only be removed by the fact that the blood continually holds antitoxins in reserve for use against the intruders. These antitoxins, whose necessity was theoretically demonstrated, have actually been found in the blood of pregnant women, as well as in the blood of all pregnant female animals. They make their appearance in observable quantities from the eighth day after impregnation and they disappear so rapidly after parturition that they cannot be found any more twelve days after confinement.

Emil Abderhalden, Professor of Physiology at Halle, has made it possible for physicians to utilize that peculiarity of woman's blood without having recourse to any complicated apparatus; he has shown how a mere blood reaction enables one to diagnose impregnation in its second week, that is at a time when all other means fail to give positive evidence of that condition.

To make the test which many experiments have proved absolutely reliable, one takes about 10 cc of the woman's blood; the serum extracted from it is then poured into a parchment bag together with a quantity of solidified albumin; the bag is then hung in a receptacle containing water. If the blood comes from a pregnant woman it loosens up and dissolves the albumin, a thing the blood of an unimpregnated woman could not do. The dissolved albumin passes through the pores of the parchment into the surrounding water where it can be easily detected by means of an albumin reagent. If the water contains no dissolved albumin the blood comes from an unimpregnated woman. This method has been quickly adopted by the medical profession and enables one to detect, for instance, pregnancy taking place outside of the womb, a thing which is of the greatest importance.

## SOME FACTORS IN CONNECTION WITH THE CONTRACTION OF SYPHILIS\*.

HAROLD N. COLE, M. D., Cleveland.

(Department of Dermatology and Syphilis of the Western Reserve University and Lakeside Hospital.)

**A**S far back as 1887 the French Academy of Medicine appointed a committee to inquire into the increase in heredo-syphilis and into administrative measures for the public prevention of syphilis. This is mentioned in the beginning merely to show how long ago public notice was really first intelligently called to this disease and to its manner of spread. Since then this etiological study has been kept up more or less diligently but we must confess that up to the past few years very little has been really accomplished in arousing the public and even the profession itself to a proper idea of this vital question. As Fournier writes, even with medical undergraduates there has been too often a tendency to mention the word syphilis as little as possible; while as to studying it this has been totally out of the question. In fact even in such a medical center as Paris the Lock Hospitals were closed for a long time to students and physicians, outside of the regular visiting men, and it was only by strenuous efforts on the part of the Academy of Medicine that their wealth of material was opened up for study.

Thanks to the efforts of the French School of Syphilography, of Jonathan Hutchinson, of Albert Neisser and others, there has started of late a tendency to enlighten the public more in detail as to the subject of syphilis and in fact of all venereal diseases. Recent discoveries have aided in this, as well as the work of some of the better authors. The investigations taken up by the several Foundations in Relation to Vice, and that by several governments and medical societies have also helped in this question. However, we must confess that in some of this work there has been more psychological reasoning than plain facts—hence this short survey, as yet not completed. It has been made with the object of finding out in detail from as many people as possible, just how they contracted their disease, where it was contracted and under what circumstances. The study was begun some nine months ago and as

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\* Read before the Section on Dermatology, Genitourinary Surgery and Proctology, Ohio State Medical Association, *Ohio S. M. J.*, Sept. 1915.

far as possible we have attempted to take each case as it came in order; above all, we endeavored to be absolutely impartial, each patient being asked a series of set questions and the answers then being jotted down and recorded. In some cases, to be sure, patient was not sure and in such circumstances results were left as questionable. There were 211 cases, 52 of them being private cases. Of the patients 180 were males and 31 females, there being 39 married, 11 divorced, 1 widower and 2 widows among them. The ages varied all the way from 14 to 65, congenital luetics not being recorded in the list.

#### INFLUENCE OF SEGREGATION

The first question taken up was in regard to where the disease was contracted, and here a word will be necessary in regard to the extent of our zone of ill-fame in Cleveland and also in regard to the policy carried out by the city government. It was during the administration of Mr. Tom L. Johnson that a restrictive policy first began to be enforced against our so-called "Red Light District," and ever since then this policy has been increasing in firmness. It has been notably during the administration of Mr. Newton D. Baker that this policy has been strictly carried out. At the beginning of his term of office the zone extended, roughly, on Hamilton street, from East Sixth street to East Twelfth street, and in July, 1914, the houses west of East Ninth street were closed, leaving only some twenty to thirty houses between East Ninth and East Twelfth streets, and it is from these twenty to thirty houses that most of our statistics from this street come. These resorts have been kept under a certain amount of supervision by the police and in case of too much disturbance a house has been closed. Moreover, during this past spring as we gave the board of health notice of infections arising in these places they likewise were closed by the police. This policy has kept getting more strict and on April 1, 1915, the entire district was cleaned out by the police.

What have we found in our series? Among our 211 cases, excluding 19 marital infections and 9 extragenital infections we have a total of 183 cases. Of these, 58 contracted the disease on Hamilton street, and 27 of the others in a house of ill-fame either in the prohibited district of Cleveland or in houses elsewhere—some of the cases, especially among the 52 private ones, being from outside the city. In other words, about 41 per cent were infected in

what are commonly termed "whore houses." And of this number I might add that on Hamilton street alone, 13 of our 19 minors were infected; their ages running upwards from 16 years—and this despite the fact that there is supposed to be a stringent rule as to minors in such resorts. In no case had the least attempt been made to question the boys as to their age. Of the other boys, one aged 17 had been invited into a house on Broadway, by a woman, as he passed. The second had contracted it from a friend and the third, a boy aged 14, had gone to a house in another portion of the city where a lone woman and her male friend lived. It was the custom for this friend to go out and invite the boys in and in this boy's circle of 12 friends, varying in age from 12 to 18, another had contracted gonorrhœa, he had lues, and they all had had intercourse with her at the small price of 50 cents apiece.

Two of the cases contracted on Hamilton street were in men, one a minor aged 18, who feared the consequences of intercourse and visited a so-called "French house." Both of them of course, had primaries and the same symptoms as the other luetics.

Of the remaining 126 cases, 37, or 29 per cent, were said to have been received from friends, and 41, or 32 per cent, were acquired from "street walkers." This leaves 19 marital cases, 16 females and 3 males, who contracted the disease from their life partner. In our series of 31 females, about 50 per cent of them were syphilized from their husbands, figures I believe which agree quite closely with those of Fournier and Ricord. There were 9 extragenital chancres in the series, one chancre of the neck contracted in a barber shop, one on the cheek supposed to have been contracted from a bed fellow, and seven primary infections of the lip.

Of these 211 cases I am sorry to say that the occupation was not always mentioned, but there were among them working as public servants: 9 waiters and waitresses, 3 cooks, 1 butcher, 2 barbers and 1 bartender.

#### INFLUENCE OF ALCOHOL.

The next question taken up with these people was in regard to alcohol. Any physician is aware of how often his patients get drunk, go "down the line for a night," and pay for it during the rest of their lives. This is especially common with students and intelligent men who would, otherwise, never think of visiting such districts, and it was with this thought in view that this portion



of the survey was undertaken. This has already been lightly touched upon by Barthelemy and Devillez. They have made a very interesting study on the question of syphilis and alcohol, especially in relation to the subject in Paris. They conclude: "On our side, we are able to say without fear of exaggeration that the half of the cases of syphilis found in the young men of the schools have been contracted with the women of the drinking parlors." (p. 317.) The late Alfred Fournier has also studied this question to some extent and in writing on the Public Prevention of Syphilis says (p. 313): "Thus the bars and the wine shops constitute at the present day actual centers of infection, and one of the most dangerous forms of clandestine prostitution." "For the women they are centers of demoralization, alcoholism and disease." As Barthelemy and Devillez well say, "On le voit l'alcoolisme est partout present, il est partout le compagnon, le complice de la syphilis" p. 313.

In our list of 211 cases, excluding the 19 marital infections, 9 extragenital infections and 35 patients not sure in their own mind as to their condition, we have left a total of 148 persons, male and female. Of these 148, 88 of them were intoxicated to a greater or lesser degree at the time of infection and 60 were not; in other words a percentage of 60 to 40. This is a little higher than Ricord's estimate, but in my private cases, numbering 52, it was even higher. After eliminating 3 extragenital infections and 10 who were not sure, 31 patients of the remaining 39 were intoxicated more or less—that is, a percentage of 79. True, there is a certain class of men, and a large class, too, who go "down the line" because of sensual desires alone, but given the average intelligent man or student and he will be either afraid or ashamed to do so except under a certain stimulus, and that stimulus is alcohol. To quote several instances, No. 17, a young mechanic, when questioned said, "I was so drunk I didn't know what I was doing." Again No. 36, a law student, said, "There was a bunch of us, we began to drink and then some one proposed that we go down the line." Another, "I got pretty tight and some one dared me," and so I could go on and give instance after instance. True, cases were met who said they never drank, but certainly from our statistics the majority of our luetics first became more or less under the influence of alcohol and then took the leap, and in the private cases the percentage, 79, was even higher.

The criticism may be raised that the figures for Cleveland

are not the same as for somewhere else and that the series is too small. This is all true and we intend to carry the study further. However in this series of 211 impartial cases, taken as they ran, we have gotten these figures and I would like to add that for practically the entire time there were only 20 supervised houses on Hamilton street, and it was from these 20 resorts that most of our cases from that source originated.

#### DEDUCTION BASED ON SERIES.

True, I am not justified in drawing conclusions but I would like to make several deductions. All psychological reasoning and writing to the contrary, a defined or even supervised district of ill-fame is bound to be a menace to that community. Witness what 20 houses have done in the past nine months in Cleveland. Moreover, there is a certain class, especially students, who would not be so likely to visit such a place if it were not known to be there and to be easily accessible. This applies also to the farmer boys who come to the cities to spend their Saturday nights. No matter how well supervised, the average brothel will take any one in if he has the price—no question being asked as to age, color or condition. Moreover, though our figures are small as yet, we believe that the use of alcoholic liquors has a definite large influence in the contraction of venereal disease and that with a large class of men they would not "take the chance" were it not for the artificial stimulation of these conditions.

As to the criticism raised by many well meaning but ignorant women, that the "zone" must be preserved to protect our wives and daughters. My small list of cases proves on the contrary that our wives and daughters are more liable to be syphilized in wedlock after their husbands have contracted the disease in the zone. Fournier and Ricord, in their large experience, have noted the same thing.

# ABSTRACTS AND TRANSLATIONS

## SEXUAL CAUSES OF TIMIDITY.

Dr. Marcinowsky has endeavored on the strength of his neuro-pathological observations to analyse the psychology of the rather common type of men who on the slightest provocation feel dreadfully embarrassed, whose entire life "is a continuous apology" for their very existence, who are entirely lacking in self-confidence and whose every pleasure is spoilt by an imaginary feeling of their own deficiencies.

"Those who have had experience with such cases," the author writes, "will not be surprised when I say that I have discovered in those imagination complexes conflicting elements of a sexual nature. In that domain where natural morality or rather the natural instinct cannot be reconciled with the morality which has grown out of the artificial demands, not of ethics but of custom, the most painful conflicts take place."

"The more we struggle, of our own volition or by compulsion, against passionate urges, on the ground of acquired repression ideas, the more those urges make themselves felt and the more savage forms they assume. Let us only recall the temptations which the strongwilled heroes of the catholic church, a Saint Augustine or a Saint Anthony had to withstand and I will appear fully justified in saying that whatever is repressed by the use of violence acquires thereby more strength; it is just like air which is never as powerful as when it is compressed.

"Many men succeed in emerging victorious from those conflicts, because they do not color certain phenomena of their instinctive life with the remorse accompanying the medieval idea of sin. When men with a great ethical or esthetic sensitiveness have been led by their absurd education to consider every natural feeling as something bad and vulgar, fixed ideas of personal worthlessness will unavoidably permeate their whole life, give it a morbid tinge and put a distinct stamp upon their personality (feelings of shame, or guilt, thoughts of suicide, etc.)

The most serious case of that kind that ever came under my observation was also the most typical. A child of normal, naive sensuality, was told by a theological student that even the mere act of thinking about sexual matters was sinful.<sup>1</sup>

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<sup>1</sup>v. g. The Orthodox evangelical doctrine based upon St. Paul's letters to the Romans that human nature is absolutely sinful.

The child in his innocence exaggerated naturally the import of that remark. The fear of sensuous images caused his imagination to be constantly haunted by them. The efforts made by his will to repress all those sensuous ideas, filled him on one hand with a continuous sense of guilt and on the other hand, as a consequence of his concentration of attention, fixed those sensuous fancies as compulsion ideas, (obsessive ideas).

Let all those symptoms become a little more acute and we will have a perfect picture of a neurosis; and the results of this are still more tragic when the patient is not an inferior man who wallows gleefully in his own filth but a creature of lofty ethical aspirations, who suffers unutterably from the consequences of his instinctive life.

A man of that type thinks that everyone can read on his face the story of his shame. What else is needed to explain his strange behavior?

One of the feelings which frequently cause a sense of guilt is an attachment for either a person beyond the patient's reach or one who, according to the dictates of current morality, should not be the object of his affection. "It cannot be" transforms itself into "it should not be" and soon creates a feeling of personal guilt, the sort of guilt which of course could not be fastened to a mere feeling and which could only follow actual deeds.

This is followed in time by secondary symptoms, ill humor, excitability, despondency, hostile feelings coupled with almost murderous thoughts (the patient may wish the death of people who stand in the way of his happiness) and cause in the patient certain feelings or a lack of feelings which he himself cannot understand. (The lack of interest we observe in depressed people.)

I have observed another type especially among men who in their childhood were misunderstood or bullied, who on account of certain shortcomings could not get along with the other children, were plagued or ridiculed and in their despair and loneliness only found consolation in tears. Sometimes those men are absurdly proud of some scientific achievement of theirs, and this gives the key to otherwise elusive psychological data.

These men are trying to make up for some shortcomings by a certain superiority in another direction and when we take the trouble to investigate their dream life and the run of their imagination we are astonished at the many sweet and rich flowers which their heart desires have either caused to bloom or ruthlessly

crushed out, and at the frantic longing those men express through dreams in which their wishes are fulfilled for the things they do not possess.

Perfectly healthy individuals have of course similar dreams but in this case the dreams assume entirely different forms and I must repeat here that those forms enable us to recognize in that struggle to excell in certain fields a hidden struggle for sexual success.

The memory of a hundred discouraging defeats they have met with in that struggle puts its stamp on the personality of those men and is the only explanation for it.

When we realize those facts we can, I think, explain easily the mental idiosyncrasies of the embarrassed, bashful and silent men and solve the enigma of their sense of guilt with its concomittant desire for atonement.

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#### SEX ORGAN CHANGES IN INSANITY.

Recent histologic examination of the testicles in insane males, and of the ovaries in demented females, says *The Journal of the American Medical Association*, has demonstrated that nature tends to limit reproduction in those who are mentally unsound. Degenerative changes and atrophy of these organs are so pronounced in some of the severe psychoses as to make procreation impossible.

Todde compared the volume and weight of testicles from insane patients with those of individuals dying from accident or usual illnesses. He found that the testes of the insane were notably smaller, and that altered structure and function were present in the various groups of mental disease, and seemed, for the most part, independent of the age. The most constant and distinct lesions were found in the testicles of idiots and imbeciles, in which, not infrequently, absolute arrest in the development of these organs had occurred. In other instances, degenerative changes were present in the spermatoforn and interstitial structures of both the epididymis and seminiferal canals. There was also a marked increase in the intercanalicular tissue. In contrast to these findings are the changes occurring in dementia precox. Here a great variation was found. In some there was an alteration of the "filial" cells and therefore a diminution of function. More often, however, there was a degeneration of the cells which have to do with the pro-



duction of spermatozoa, or an atrophy of the seminiferous tubules with an accompanying increase in the intertubular connective tissue. In these cases there was an absence of spermatozoa. In senile dementia, irrespective of the patient's age, function was frequently abolished and there was an atrophy of the testicles. In other cases, there was evidence of marked diminution of function. This was also found in dementia paralytica, manic-depressive insanity, and in the so-called secondary dementias. In the psychoses attendant on the late stages of pellagra, evidences of hypofunction were present, which were directly proportional to the length and severity of the mental derangement. As one would expect, the forms of insanity of alcoholic origin have least effect on the genital organs. Nevertheless, a diminution of glandular activity usually occurs.

After a study of serial sections of ovaries from one hundred women who suffered during life with some form of mental disease and who died before reaching the menopause, Laura Forster came to similar conclusions. She found that in mental disease there was either lessening or a complete loss of ability to reproduce. This was especially true in dementia precox, in which, at the age of 30 years, there was marked evidence of involution of the ovaries with an interstitial connective tissue increase and a smaller number of graafian follicles. Thus, there seems to be no relation between the changes in the sexual organs of the insane and the age of the patients. The degenerative processes are apparently in direct proportion to the duration and gravity of the mental disease.

It is of interest in this connection to recall the work of Fauser and others who found, by using the Abderhalden method, that there are circulating in the blood, in dementia precox and other mental disturbances, enzymes which are specific for testicular protein in the male and ovarian proteins in the female.

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#### OPPOSITE SEX TWINS IN ONE BODY.

**D**R. Wm. Lee Howard reports a remarkable case (*N. Y. Med Jour.* Oct. 23, 1915). The uniqueness of the case lies not only in its anatomical hermaphroditic features, but in the double *psychic* sexuality. It is seldom indeed, as Dr. Howard says, that we find a human being whose primary sex organs are distinctly male, secondary sex organs and physical structure distinctly female, and whose psychic life

and impulses at certain periods are dominated by the forces of each separate sex organ or organs. Dr. Howard gives the reports of three well known specialists who examined the man-woman. Dr. Charles Whitney, Dr. F. W. Johnson, and Dr. F. B. Lund, of Boston, spent much of their valuable time and took great interest in the unfortunate patient (patients?), and I take this opportunity to thank these gentlemen.

REPORT OF DR. CHARLES M. WHITNEY, PROFESSOR OF GENITO-URINARY DISEASES, TUFTS.

I have examined your patient ——— three times. The appearance of the patient as she entered the consulting room was that of a normal young woman of twenty-five years of age.

Upon complete examination, the following conditions were found to be present. Her face was of the feminine type, the skin soft and smooth and showing no signs of a beard. The hair was long, soft, and arranged with characteristic feminine care. The body was of a purely feminine type, presenting the normal contour of hips, abdomen, and buttocks. The breasts were of medium size, of normal consistence, and having a well developed nipple and large brown areolæ.

The examination of the genital region revealed a most extraordinary contrast to the characteristics just described. On first sight there appeared to be a penis and below it a bifid scrotum, beyond the fold of which the penis projected. In detail, the organs presented in the pubic region an essentially feminine arrangement of the pubic hair, being somewhat triangular in shape and not extending up on the abdomen. At the upper portion was an organ having the anatomical appearance of a penis. Its circumference was two and a quarter inches and its length one and a half inch. It was covered with skin of soft texture, and at the extremity was folded over so that a somewhat short prepuce was present. There was a small but normal glans penis, in the end of which there was a small depression where the meatus should have been found. There was a small but normal frenum; beneath it and beyond this a normal median rhapshe extending along the under surface. The organ was exceedingly sensitive, the slightest touch causing it to become firm and turgid and about *double in size*. This erectile condition showed that the corpora cavernosa were present and the presence of a glans penis rendered it almost sure that the corpus spongiosum was also in its normal position.

The corpora cavernosa could be followed up to the pubic bone where the crura were distinctly palpable.

On either side of the organ and for the most part below it were two large pouches of skin, resembling that of the scrotum, not connected with each other. In each of these there were present an oval body identical in shape, consistence, and sensitiveness with that of a normal testis. Behind each was an elongated body, precisely corresponding in position and size to an epididymis. From each of these a cord extended to the inguinal region.

On the left a marked cremastic reflex was present, but in the right was much less marked. Between the two scrotal folds there was a line of firm whitish tissue, and at the lower portion this resembled the mucous membrane of the urethra. Beyond a doubt this was a portion of the superior wall of the urethra in its normal position. Below and leading from this was a small orifice in the perineum, admitting the little finger and presenting at first sight, the appearance of a rudimentary vagina. A catheter however, passed into it, revealed the fact that it entered directly into the bladder and was the posterior portion of the urethra.

On either side of the median line and about a half inch from it and below the scrotum, was a small elevation of tissue resembling the lower edge of a labium majus. Careful rectal examination showed no signs of a prostate gland or vesicles. Bimanual examination failed to show the presence of a uterus or ovaries.

#### DOCTOR LUND'S REPORT.

In regard to the patient ————— whom I examined with Doctor Whitney, considering the breasts, the shape of the body, the hips, face, and hair, *I think she is a woman*. She has been brought up as one and I think ought to remain so.

There is no question that there is a testicle on either side and I think that might well be remedied by placing those out of the way under the abdominal fascia. In case she should want to be married, the most feasible method to make an artificial vagina is that by which it is made from a loop of the small intestine.

#### DOCTOR JOHNSON'S OPINION.

Thank you very much for the most interesting case you sent me. The face is of a woman, breasts like a woman, hips like a woman. I could find nothing in the pelvis like a uterus or ovaries. The two testicle shaped bodies, I think, are testicles. On repeated tests—and every time—testicular pain was produced on squeezing

the left body. I think there is a short (three inches) vagina. This admits, fairly easily, the little finger. *I suppose she is or should be classed as a man* (italics mine. W. L. H.).

Commenting on these reports Dr. Howard says (we give his words verbatim): As I was present during Doctor Whitney's examination, and carefully considered what Professor Lund and Professor Johnson had to say about the case, I realized again what a chasm there is between the man who studies these cases from a psychological point of view and the surgical and gynecological facts upon which medical men base their opinions of sex.

To get at the approximate truth of the sex of this unfortunate person, it is absolutely necessary to have some understanding of her or his psychical states. Remember that in reality the sex is determined in the last analysis by the impulses, desires, and longings originating in the brain centres. So I present a few, a very few, of her or his mental longings and the distressing cries from her or his psychic life. Let me say in advance that I think these cries come from the struggles of really two personalities or individuals enmeshed in one outward fleshly form; this form in its make-up showing a moulding of two individuals of opposite sex.

Psychologically considered, here are twins—male and female. Physiologically, as we shall see, they may be so considered, at least for a working hypothesis. As the Siamese and similar twins were bound together by an abdominal band of anatomical tissues, inseparable yet separate, so in this case we have twins, each one at times struggling to exert its sex and personality, yet unable to express any distinct somatic existence. Their souls, minds, instincts, impulses, are separate, but inseparable. They are rooted in one soil, confined in one mass of human stuff, coalesced, yet the sex instinct in each separate individual cries out for normal sexual relief. At certain periods the female twin wants the caresses and embraces of a vigorous male; at certain periods the male twin is frantically desirous for sensual pleasures with a female.

The female cries for relief at periods which would correspond with a menstrual flow—about every three or four weeks. About two weeks after these female crises, the male centre in brain and cord become sufficiently active to cause sensual dreams with normal orgasm. Manustupration takes place only when the male twin is in the ascendant. The female twin abhors manual or artificial relief, but has succumbed to the male organs of a boy in the

assumed vagina and with men *inter femora*. The male organ, when the male is in ascendant, has been used upon girls with satisfaction to both participants.

Here is one of *her* letters to me. *His* letters are only male variants of the sister's:

"My dear and kind Doctor Howard; have pity on me; the suspense is unbearable. God help me! There is a limit to human endurance. No one knows my heart better than you—for God's sake have mercy before it is too late. If anything can be done, it should be done now while there is yet breath of life in me. My heart is breaking. I feel I can't survive it any longer. Pity me, pity *us*, for mercy's sake—Have pity for me should I go out."

And yet often the public wonder why the newspapers state: "No reason is known for the suicide."

The reason I do not consider this a case of psychosexual hermaphroditism is because, while there exists a seeming heterosexuality, the separate impulses each have their specific and rightful causative factors. In my opinion the male and female instincts residing in the one body arise from distinct psychical and physiological entities. True heterosexuality is due to a weak or lessened sexuality in the male or female cerebral sex centres, and these centres being "on the fence" are stimulated into action by and through external influences and subtle suggestions. At no time is there a dominating sex impulse. In this case there are powerful dominating sex impulses. When the male is dominant any suggestion or thought contrary to the normal instinct is abhorrent and disgusting. The same mental attitude exists when the female element is dominant.

Furthermore, true psychosexual hermaphroditism is found in subjects whose primary and secondary sex organs are in accordance with the general sex anatomy belonging to those organs. A person may have all the primary and secondary sex organs of the male genital organs, beard, muscles, voice, skin, yet the cerebral sex centres be those of the opposite sex. Such a subject follows the impulses and instincts originating in the brain centres, and so seeks the apparent opposite sex—the male. Of course the same holds true in the reversed condition. For want of a better understanding and term, we have called this state homosexuality, but in reality it is a normal sex attitude obscured by the objectiveness of the external organs. These anatomical signs are only superfluous growths embryologically or cytologically speaking, grafted on to a female or male.



## PETITION FOR QUARANTINE OF SYPHILITIC.

Probably a unique instance in the campaign against venereal diseases is the issuing of an injunction in Springfield to quarantine a woman afflicted with syphilis. The health commissioner submitted a petition to the court for such an injunction, and the court, of which the judge is the Hon. Arch A. Johnson, granted his petition and the woman was placed in a hospital and compelled to take treatment. The text of the petition follows:

IN THE CIRCUIT COURT OF GREENE COUNTY, MISSOURI.  
DIVISION No. 2, SEPTEMBER TERM, 1915.

Edwin F. James, City Health Commissioner, Plaintiff }  
vs.  
Margaret Dale, Defendant }

Plaintiff states that he is the Public Health Commissioner of the City of Springfield and as such is charged with the care and responsibility of the health of the citizens of said city.

Plaintiff states that the defendant is an unmarried female of the age of about twenty years and is a resident of said City of Springfield, Missouri.

Plaintiff states that the defendant Margaret Dale is now infected and has for sometime past been infected with a venereal disease, to-wit, with the disease commonly known as syphilis.

Plaintiff states that defendant is a woman of bad repute and plies her vocation of a common bawd and habitually offers herself and her body for sexual commerce in the said City of Springfield and at other points in Greene County, Missouri, and is now exposing herself in said county on the banks of James River for sexual commerce, and as plaintiff is informed and believes, is now engaging in such sexual commerce with divers persons to plaintiff unknown.

Plaintiff states that by reason of the premises the defendant is a menace to the health and morals of the community and her unrestrained freedom and acts of sexual commerce constitute her a public nuisance and a menace to the people of said county and City of Springfield.

Plaintiff states that for the safe-guarding of the health of the community defendant should be quarantined for said disease and should be restrained from plying her vocation and should be restrained and placed under such charge as will prevent the spread of such disease.

WHEREFORE, Plaintiff prays that a temporary writ of injunction issue commanding that she be limited to her movements to a certain specified quarter and that she be placed under the care of a competent physician until she be purified and cleansed of such disease.

EDWIN F. JAMES, *Plaintiff*.













