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CONTRIBUTION
TO THE
HYDROLOGICAL TREATMENT
OF
BRIGHT'S DISEASES,

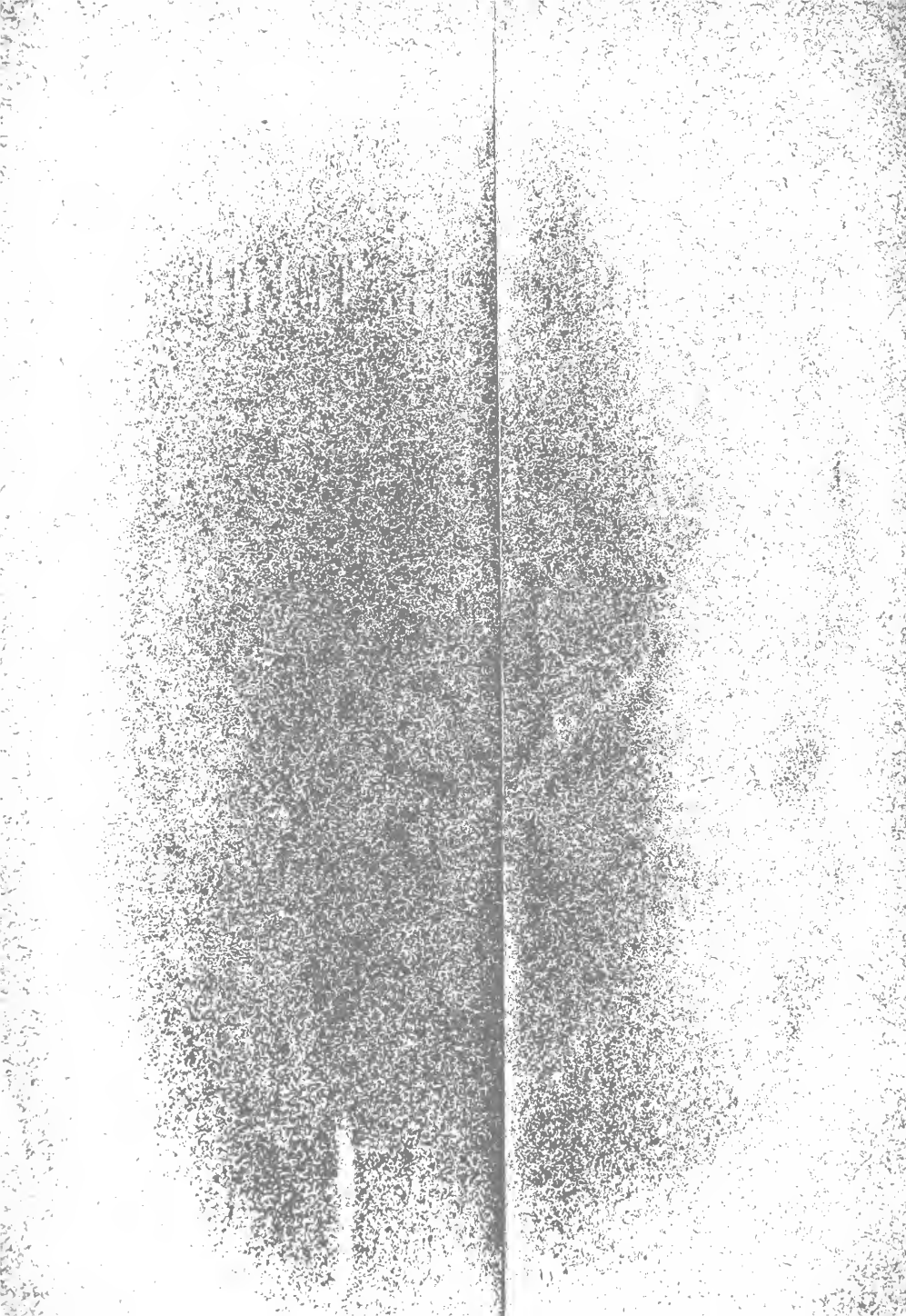
BY

DR. A. W. DE ROALDES,

Resident Physician, Waukesha Springs, Wisconsin.

Read before the New Orleans Medical and Surgical Ass'n.

Reprint from New Orleans Medical and Surgical Journal.



CONTRIBUTION

TO THE

Hydrological Treatment of Bright's Diseases.

By DR. A. W. DE ROALDES, Resident Physician,
Waukesha Springs, Wisconsin.

Read before the New Orleans Medical and Surgical Association.

In bringing the discussion to bear upon Bright's diseases, our confrère and friend Dr. Loeber has chosen, with great propriety, I think, to limit the wide field of albuminuria, which is too vast to run over in one evening. Limited as the question may be, it still affords room for different views.

No one will dispute that, in some cases of albuminuria, the disease is entirely constituted by a renal lesion, as, for example: Albuminuria resulting from exposure to gold, or again cantharidian nephritis. But what constitutes Bright's diseases? There lies the question. For some physicians it is merely and primarily a local renal lesion; for others, and this seems to be a more philosophical view, Bright's diseases are in their very incipency general affections, constitutional disorders, dyscrasiæ, as scrofula, gout, rheumatism, syphilis, of which albuminuria, at the start, is only a symptom. The excretion of albumen may in these conditions be the initial phenomenon without being accompanied, in the beginning at least, by any lesion of the kidneys. Albumen may be excreted by these organs as sugar is. The only difference between diabetes and incipient albuminuria of Bright's diseases, lies in the excreted substances. If it be sugar, a hydro-carbon possessed of dialysable properties, the excretion will be affected without producing any local disorder in the parenchyma or stroma of the kidney; if, on the contrary, it be albumen, a colloid substance, the kidney will soon become affected. This transudation of albumen is accompanied by renal congestion; if it be moderate, the disease may run a very slow course. There are cases of Brightie albuminuria, which may have a very long

duration, ten, fifteen, twenty and more years. I was consulted two months ago, by a medical gentleman, who has been passing albumen ever since 1874. It is only in the last two years that the examination of his urine has revealed the presence of casts, and it is only since this comparatively short time that his general health has become affected. Last summer, at the springs, I had under my charge a lawyer from Paris; his physician, Dr. Gubler, stated in his letter to me, that our patient had been passing albumen ever since 1853. This slow progress of the disease is witnessed only in such constitutions as are free from a diathetic influence. Take, for instance, a scrofulous, a syphilitic, a rheumatic, or a gouty patient, whose constitution shows a tendency to the evolution of morbid products of a retrogressive character. The congestion, in such cases, will soon lead to the formation of neoplasms, to the poliferation of new cellular elements, etc. Simple albuminuria will then be of very short duration and will soon result in Brightic diseases.

But I shall not stop to enquire the cause, by reason of which albumen escapes from the blood to mingle with the urine. Is it the kidney which just becomes diseased, or is this organ secondarily affected? Must we, on the contrary, look for the incipency of the malady in a functional disorder of the liver and stomach? Or is it the blood which is primarily affected?

I particularly desire to-night to direct your attention to a few special points of therapeutics of Bright's diseases. In contending with these affections, you must with me have observed the striking discrepancy in the results obtained in the treatment of hospital patients, as against those obtained in the treatment of patients of a better class—the former, as a rule, are extremely discouraging, whilst the latter afford, at times, a reasonable degree of satisfaction. I am aware that the discrepancy may, in a measure, be due to the fact that, in the former instance, we are called upon to see our patients when the disease has reached an advanced stage. But are they not also measurably due to the fact that we are, unfortunately, limited almost exclusively, I may say, to the use of pharmacodynamic agents?

*Medical hydrology, climatology, hygiene and electricity now seem to take precedence in the treatment of chronic diseases. And I am inclined to the belief that in Bright's diseases you will often obtain more satisfactory results if, with due regard to the indications furnished by the etiology of the affection, you give a greater weight when possible to these powerful modifiers. I have had occasion during the past few years to obtain some happy results by the use of medical hydrology applied to Bright's diseases. You will, therefore, before I proceed further, permit me to condense a few observations which will enable me to draw some conclusions in regard to the use of this therapeutical method.

OBSERVATION I.—CASE OF CHRONIC PARENCHYMATOUS
NEPHRITIS.

Mr. C., a gentleman about 47 years of age, was directed by his physician, Dr. L'héritière, of Paris, to follow a water cure at the calcic springs of Vittel. Mr. C. had an attack of cholera in 1871, and of rheumatism in 1872. With these exceptions, his health has been good up to 1877, when he began to lose flesh and strength without any apparent cause. In September of the same year, he suffered from intense dyspeptic troubles, with marked dysphagia and shortness of breath. In March, 1878, got wet in a very heavy rain, and had a spell of acute desquamative nephritis, followed by two relapses, at short intervals. Fever, general pains over the body, with marked sensibility over the lumbar region, gastric symptoms, œdema of legs and thighs, urine heavily loaded with albumen, were among the characteristic symptoms. Patient arrived at the springs June 5th. His urine presents an acid reaction, it is frothy and clear, except at the bottom of the vessel, where a white yellowish sediment is observed. His urine of the day contains 5 grammes 18 centigr. (a little over 80 grains) of albumen; the one of the night, 3.13 gr. (about 49 grains); urea, 15.30 gr. (about 228 grains). Microscopical examination of sediment shows numerous large, dark colored crystals of uric acid, broad granular casts in large number, a few narrow, pale,

* Medical hydrology treats of the internal and external use of water in disease, and comprises mineral springs, sea-bathing, douches of all sorts, medicated baths, Turkish and Russian baths, etc.

slightly curved casts with some renal opaque epithelial cells adherent. No fatty globules nor any waxy cylinders. Blood corpuscles numeration gives 3,490,000. Weight of the body 152 pounds.

Patient was advised to drink from 8 to 12 glasses of mineral water, to take one bath a day of one hour's duration at 39° Centigr., followed by frictions and kneading, and a hot revulsive douche at 42° Centigr. of five minutes over the lumbar region.

On the 8th day the quantity of albumen is reduced to 1.90 gr. (about 30 grains) in the day, and 1.33 gr. (about 20 grains) in the night's urine. On the 25th day the urine shows but a trace of albumen and contains but a few hyaline casts. Upon departure, July 12th, 37th day of the water cure, the urine is entirely free from albumen and casts. The numeration of blood corpuscles gives 3,900,000. Weight of the body 161 pounds. The microscopical examination, which was repeated several times during treatment, has shown a disappearance of the casts parallel with the diminution of albumen, until at last, a careful micro-chemical test revealed the absence of both. The quantity of urine, which during treatment was increased to 1700 C. C., has fallen back to 1290 C. C. upon departure; specific gravity=1017 and urea=19 grammes (about 289 grains.)

OBSERVATION II.—CASE OF INTERSTITIAL NEPHRITIS.

Mr. R., a merchant, 44 years of age, was prescribed by Dr. Gubler, of Paris, a water course at the Springs of Vittel, where he arrived June 20, 1876. When 29 years of age, patient had an attack of double urethro-orchitis, which has left as a sequela some weakness about the genital organs. His father was subject to gout, and died in epileptiform fits. Mr. R., himself, has been attacked three or four times with articular gout, the last time in May, 1874. During past 4 or 5 years, patient has noticed in his urine a frequent deposit of a yellow-pinkish hue. On January 10, 1876, was laid in bed for a fortnight with erratic pains of the whole body, fever, epistaxis, bronchitis, lumbar pains greater on the right side. His sputa were streaked with blood. Urine was diminished in quantity, highly colored, albuminous and containing few casts, but

wholly deprived of its deposit of urates or uric acid. This acute spell subsided gradually, and patient was finally relieved by the appearance in his urine of a copious, brick-colored, sandy deposit. However, he never since enjoyed his ordinary health, and his urine has kept albuminous.

Condition upon arrival at the springs: The skin is dry and branny, appetite poor, thirst normal, digestion torpid and sleep impaired. Patient experiences a very uncomfortable sensation of prickling about the inferior extremities. Slight œdema of the ankles and feet; frequent micturition. Passes 1600 C. C. of a cloudy, acid urine, containing 22 grammes of urea, 1.75 gr. of phosphates, 7 gr. of chlorides, 2 gr. of albumen. Uric acid and urates are diminished. There is a slight hypertrophy of the heart, but no valvular lesion, no palpitations. Respiratory murmur normal. Blood corpuscles=3,600,000. Microscopical examination shows numerous granulo-fatty cylinders, some few hyaline casts, some others dotted over with fine dark granulations. Rare, waxy-like casts.

Patient was directed to drink 12 to 14 glasses of mineral water a day, 1 glass of Pulna water every fourth day, to overcome costiveness. Tepid bath at 37° C., followed by frictions and kneading of the whole body. Hot revulsive douche at 42° C., over the lumbar region.

About the 7th day, albumen began to diminish; on the 20th day, the quantity was reduced to 0 gr. 80 centigr; on the 37th day, when patient left the springs, a trace of albumen, some hyaline cylinders and a very few granulo-fatty casts only are to be found upon close research. During the first week of treatment, the quantity of urine passed daily was increased from 1600 C. C. to 2300 C. C., and was heavily loaded with uric acid. General neuropathic symptoms have subsided; the sleep is improved and patient no longer experiences his troublesome cerebral lassitude. Numeration of blood corpuscles gives 4,200,000. Patient has gained 5 pounds, and a slight exercise will promote perspiration.

OBSERVATION III.—CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

Mr. H., aged 38 years, a banker, arrived at La Bourboule Arsenical Thermal Springs, June 26, 1878, sent by his Paris

physician, Prof. Chauffard. Has attended him during 4 years. In his letter, after rapidly going over the history of the case, he remarks that Mr. H. was forced to abandon Constantinople in 1874, on account of obstinate intermittent fevers, accompanied with enlargement of the spleen. The type of fever was at first modified by the change of climate, and patient, after 13 months, was entirely free of malarial attacks. His health, notwithstanding, was far from being restored to its normal standard. Patient remained anemic, although iron, quinine and strychnia were administered. Complained of general weakness, of palpitations, accompanied with repeated attacks of bronchitis, characterized by intense dyspnoea, mostly nocturnal, and by sputa occasionally tinged with blood. Sleep disturbed by cough and frequent desire to micturate. Urine clear and frothy. A close investigation led Dr. Chauffard to diagnose the case as one of incipient parenchymatous nephritis from malarial poisoning. During two years, various treatments were uselessly employed, the disease following a progressive course.

At last Dr. C. decided upon removing his patient from the confined and hot summer atmosphere of Paris, and he was ordered to resort to a water cure, with the hope that the change of climate and the use of arsenical springs would help to rebuild his general constitution and put a check to the pulmonary and renal congestions. Upon arrival at the springs Mr. H. is in the following condition: General appearance is bad, whether this be the result of his journey or not; mucous membranes are unusually pale, the skin is dry, and the seat of a marked epithelial desquamation (pityriasis). marked emaciation, patient weighing 137 pounds, waxy appearance of the teguments. Liver and lungs are normal, spleen slightly enlarged. The eyelids are somewhat bloated. Patient is troubled with frequent micturation at night (8 to 10 times). Quantity of daily urine 1410 C. C. specific gravity=1009. Night urine contains 3 gr. 69 centigr., and day urine about 6 gr. 19 centigr. of albumen. Quantity of urea exceedingly small=11 gr. 70 centigr. Phosphates and chlorides are in normal proportions. Microscopical examination shows: Numerous and thick crystals of

uric acid, granulo-fatty casts with oil globules, numerous narrow cylinders with fine granulations, some broad waxy casts and degenerated epithelial cells with irregularly defined edges. Mr. H. is advised to rest a week before beginning treatment. On the third day I am called to see him. Patient is laboring under an attack of severe bronchitis, with slight pulmonary œdema. Heart is normal, but rather impulsive. Feet œdematous. Next day the œdema has reached the scrotum; thighs and legs are considerably swollen. Quantity of urine diminished to 900 C. C. Sp. gr=1014.

Patient feels pretty well on the tenth day of this attack, with the exception of the anasarca of the inferior extremities. The swelling is such that patient's weight has been raised from 137 to 172 pounds. Obtaining no result from purgative plan, advised him to begin at once hydropathic treatment, consisting in hot air baths—Turkish baths—which were administered for a period of two weeks (one bath every other day). Patient gradually reached a temperature of 176° F. As much as 1200 grammes of water (nearly 2½ pounds) were abstracted from the system in one bath; urine passed in 24 hours, averaging 950 C. C. After the eighth bath, patient was nearly relieved of his anasarca; his weight fell down to 136 pounds, or 1 pound less than he weighed upon arrival.

The hydromineral treatment was then instituted, and patient advised to drink from 2 to 4 glasses of mineral water. Baths at 39° C. were also ordered, and were followed by a hot revulsive douche applied over the splenic and lumbar regions.

This treatment, kept up for a month, brought on a most remarkable improvement. The condition of the patient upon departure, August 18th—that is, 92 days after his arrival, was as follows: Appetite restored; sleep interrupted but once or twice for micturation; patient has made frequent excursions in the mountains with comparative ease; the functions of the skin are normal; no œdema; complexion darker, but still retaining an anæmic taint; only a trace of albumen in the urine. Casts are few in number, broad and granulo-fatty, no waxy cylinders nor any oily globules. Some renal epithelial cells with natural dull tint. The quantity of urea has been raised up to 15 gram-

mes, and amount of urine daily excreted=1370 C. C. Has gained 15 pounds. Patient left the springs after being advised to sojourn in the south of France or Italy during winter, and to return next summer to the springs.

Had occasion to hear from Mr. H., through his physician. He has wintered at Cannes, and during January has drunk the transported waters. Has followed, otherwise, no special treatment, but exercised in the open air. Has had no recurrence of his bronchitic attacks; his general health, which is very good, has allowed him to enjoy ordinary life. His urine still shows a trace of albumen, detectable only with Heller's test. The microscope shows the presence of a few broad granulo-fatty casts, with degenerated epithelial cells.

OBSERVATION IV.—CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

George Brungard, 27 years of age, entered Charity Hospital March 8, 1879. A year ago, patient then living in Arkansas, was attacked with malarial fever, of a tertian type. In October, after exposure to rain and cold, was seized with rigors, followed by fever, nausea, and pains in the lumbar region, and swelling of the inferior extremities.

Upon admission, patient says he has been unable to leave his bed for the past two months on account of excessive weakness. Mucous membranes and teguments show a waxy hue, face is bloated, appetite impaired, bowels loose. Inferior extremities and scrotum are the seat of considerable serous effusion. Heart normal, but spleen is enlarged. Patient's sleep is often interrupted by cough, due to slight edema of the lungs.

Patient is put under observation for a few days. The urine is very pale, frothy and acid; average about 2000 C. C. a day, with a sp. gr. of 1007. It contains a large quantity of albumen; 7 gr. 90 cgr. Urea=14 gr. 75 cgr. At the bottom of the jar, there is an opaline deposit of formed elements, which, under the microscope, proves to be composed of small and narrow hyaline casts, with very few granular cylinders, and some renal epithelial cells, with a number of uric acid crystals. Patient was ordered 15 drops of dilute phosphoric acid three

times a day, and 10 to 12 glasses of Waukesha water (Crescent Spring). From March 18th to April 28th, microscopical examination and analysis of urine were made daily; from these tabular records, I condense the following: Urine rapidly became neutral, with marked tendency to ammoniacal decomposition after being voided.

March 21st, Day urine=1490 C. C., with sp. gr.=1010.

Night urine=1090 C. C., with sp. gr.=1009.

April 7th, Day urine=600 C. C., with sp. gr.=1018.

Night urine=1240 C. C., with sp. gr.=1009.

Albumen passed in 24 hours=4 gr. 22 centigr.

Microscopical examination shows a few hyaline casts, and renal epithelial cells, with amorphous earthy phosphates.

April 13th, Day urine=400 C. C., with sp. gr.=1022

Night urine=879 C. C., with sp. gr.=1011.

No casts, and but a few renal epithelial cells and amorphous phosphates.

April 26th, Day urine=700 C. C., with sp. gr.=1018.

Night urine=900 C. C., with sp. gr.=1012.

Quantity of albumen in 24 hours=2 gr. 29 centigr.

Microscopical examination shows a complete absence of casts. Urea=18.10 gr. During the time (38 days) patient has been under treatment, he has had five attacks of malarial fever, for which quinine was administered. The fever seemed to have no other effect upon the urine except in diminishing its quantity and deepening its color. Notwithstanding this, general condition of patient steadily improved, appetite increased. Bowels have become regular and digestion is normal. All liquid effusion has been removed. His complexion looks healthier, and auscultation reveals no abnormal sounds. Patient has been able during the last two weeks to assist the nurse of the ward in the discharge of his duties. Was last seen on May 14th. Has had another attack of fever, but his general condition continues very good. Quantity of urine about normal, so are its reaction and color. No casts, but still contains about two grammes of albumen. Urea=17.80 gr.

I will now be permitted to draw some conclusions, which seem to me justified by the study of these observations.

1st. There is a marked diminution of the albuminuria as a consequence of the diuresis produced by the use of calcic mineral waters. The renal congestion, instead of being exaggerated, has on the contrary been diminished by this diuretic influence. This result corroborates the statement of Cl. Bernard, based on actual experiment, namely: the disgorgement of glands by increased functional activity. In observation No. 3, arsenical waters having no marked effect on diuresis, we have to look elsewhere to explain their efficacy. The explanation lies, I think, in the undoubted properties of arsenic to diminish congestion by its influence on the vaso-motor nerves. We all know the good results attained with arsenic in the treatment of congestive headache, neuralgia, pulmonary congestion, etc. Besides this explanation, arsenic seemed to have filled a precise indication furnished by the fact of previous malarial intoxication, and the use of hot air baths by stimulating the functions of the skin to their utmost capacity, certainly had the effect of diminishing the tension of the blood in the renal blood vessels.

2d. In all four observations the diminution of the quantity of albumen has been progressive and very nearly parallel with the diminution of the gravity of casts and epithelium of renal origin. I will remark also that, as the worst form of cylinders disappeared or were modified, there seemed to have been a species of substitution of hyaline casts.

3d. The general health and strength of these four patients were remarkably improved by this course of treatment. The numeration of blood corpuscles was resorted to in two instances, and showed a marked increase. Corresponding to this an increase in weight, ranging from five to fifteen pounds was also obtained, except in case 4, where this observation was neglected for want of scales.

I feel consequently justified in saying that the treatment has fulfilled what should be considered the principal indications in Bright's diseases, viz:

1st. To uphold the constitution and rebuild the impoverished general conditions.

2d. To diminish, if not to suppress the congestion of the kidneys.

3d. To clear, and if possible to modify the tubuli uriniferi.

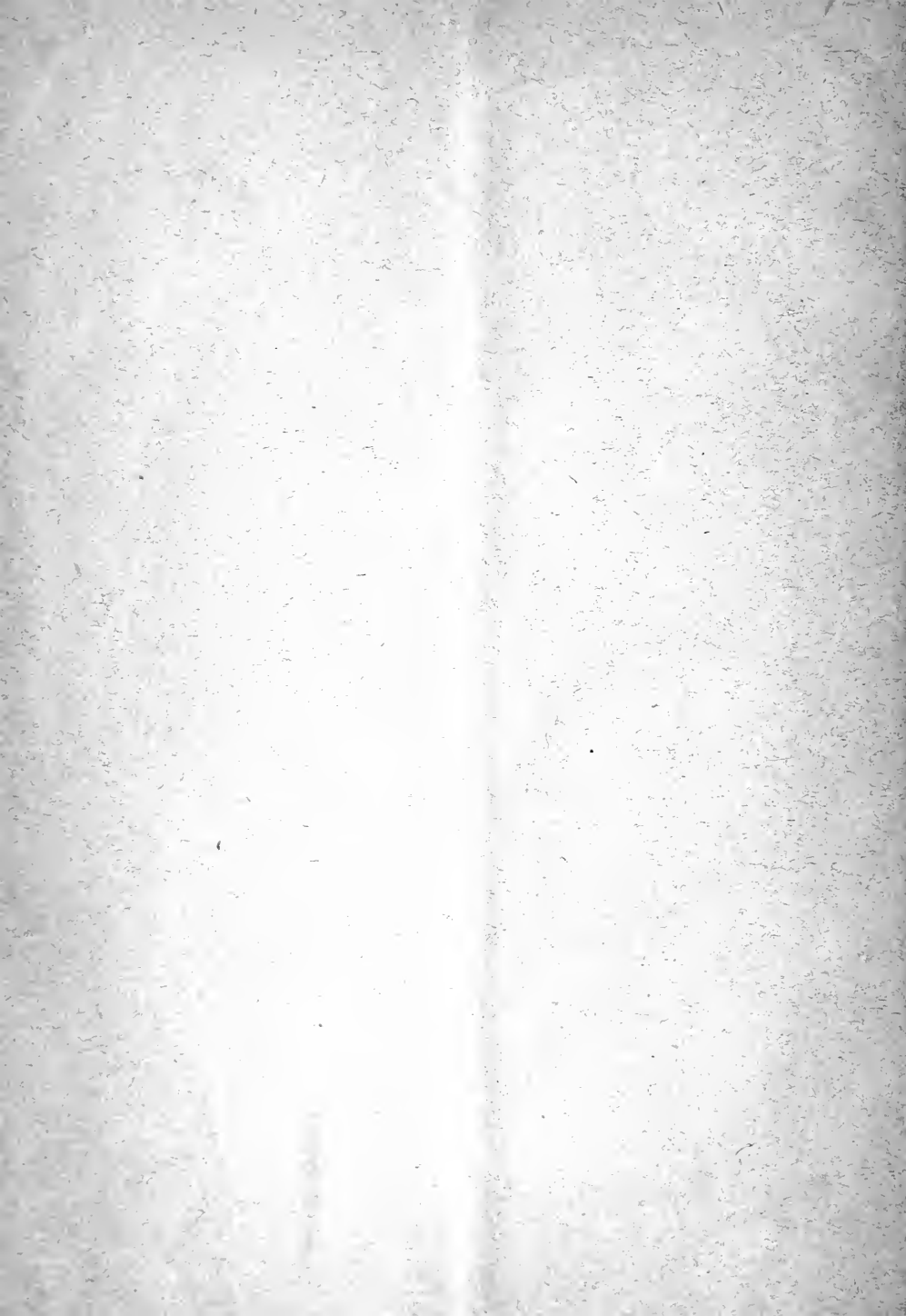
Before closing, allow me to direct your attention to the influence gout holds in the production of interstitial nephritis. It is such that the gouty kidney is, with English writers, synonymous with contracted kidney. This etiological influence is well exemplified by Case II. It is in those cases that the calcic waters of Vittel in France, Wildungen in Germany, Capon and Poland in this country, will prove efficacious. Those of Buffalo and the Waukesha Crescent Springs containing, in addition, bi-carbonate of lithia, are specially indicated. Their first effect is to render the urine alkaline, and then to favor the elimination of uric acid—accumulated in the blood—under the form of urate of lithia, the most readily soluble combination of uric acid. It frequently occurs, when, in gout, or in Bright's diseases, the urinary secretion is scanty, that uric acid, and even urate of soda, will be deposited in the tubuli uriniferi, in the shape of what Rayer has termed microscopic gravel. In these cases, these diuretic calcic and lithia mineral waters, filtering rapidly and in abundance through the kidneys, will have a sort of lixiviating result, and thus favor the solution of these infarctions, open and keep free the tubuli uriniferi. It is useless to insist upon this beneficial effect, for, in a contracted or gouty kidney, it is preparing the way for uræmic poisoning, not to avail ourselves of every possible means to prevent those tubuli, which are still sound, and through which the urea, uric acid, and extractive matters are excreted, from being blocked and clogged by this microscopical gravel.

I will lastly recall the influence of chronic malarial poisoning in the etiology of Bright's diseases. Case No. III and No. IV exemplifies this point, and, although I have had, this winter, in my wards of the Charity Hospital, three cases of chronic parenchymatous nephritis, in which the disease was clearly attributable to malaria, I am not prepared as yet to assert that, in the majority of such cases, we will be more apt to meet with parenchymatous than with interstitial nephritis.

In those cases we will have to administer quinine, even if the patient is free from paroxysm. But when it has led to undoubted disorder of the kidney, we will, I think, find in arsenic, hydropathy, mineral springs, with change of climate, modifiers which will act in a more direct manner upon the lesion, provided, of course, it be not too far advanced.

If Bright's diseases present themselves in a decided scrofulous constitution, we may, with advantage, advise a course of treatment by the saline alkaline and iodo-bromine waters, as Kreutznach, Hombourg, Darkheim in Germany, Solies, Brides, in France, Saxon in Switzerland, and St. Catherine's Wells and Caledonia Springs in this country. If, on the other hand, our patient is subject to rheumatism, or has had syphilis, if the kidneys are but recently involved, and we believe rheumatism or syphilis has had an etiological influence, we will then find, in thermal waters, of the indeterminate class, as Hot Springs of Arkansas, or of the sulphur class, as those of Virginia, a valuable adjuvant.





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