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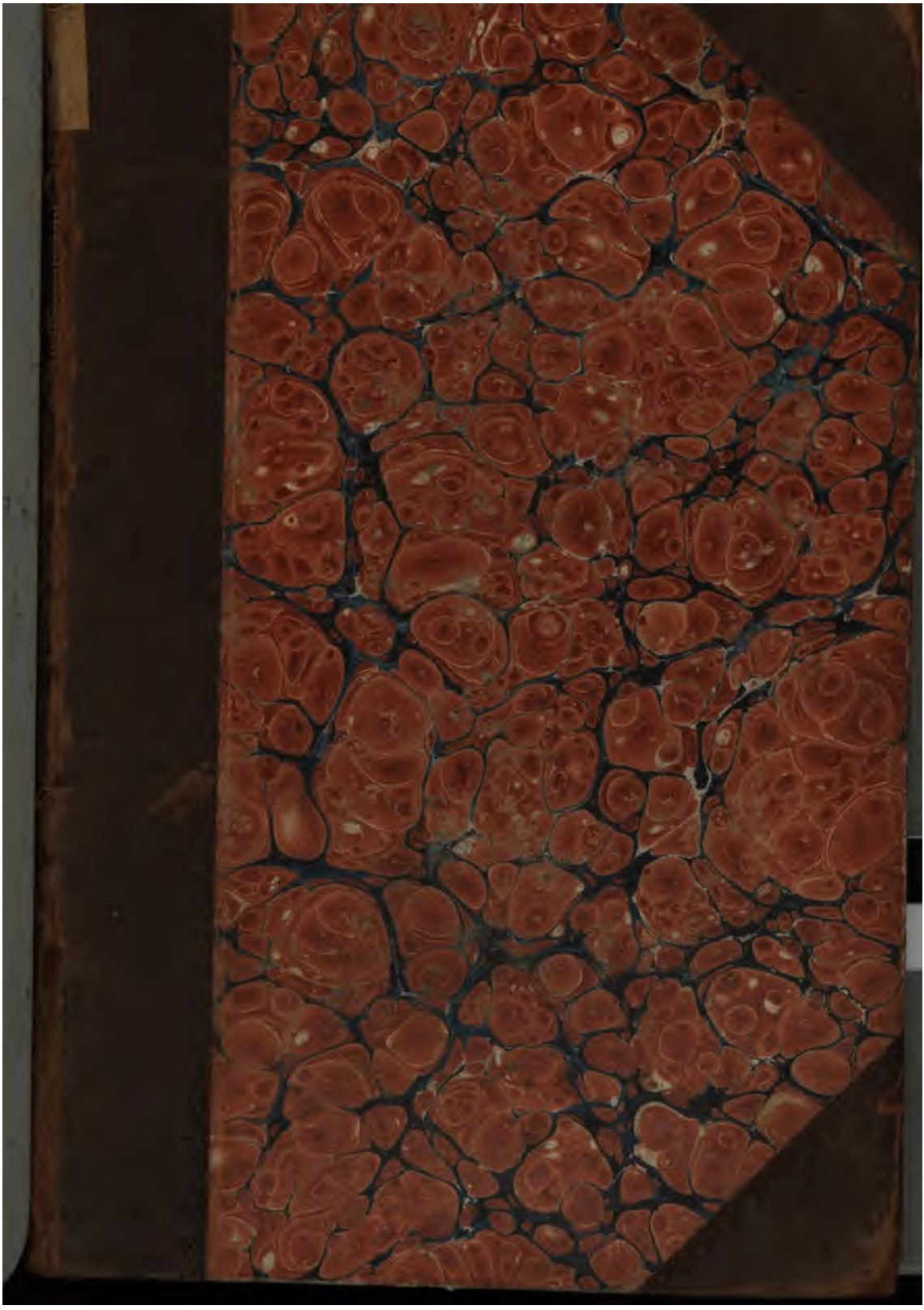

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RESEARCHES

INTO

THE NATURE AND TREATMENT

OF

DROPSY

IN THE

BRAIN, CHEST, ABDOMEN, OVARIUM, AND SKIN;

IN WHICH

A MORE CORRECT AND CONSISTENT PATHOLOGY
OF THESE DISEASES

IS POINTED OUT,

AND

A NEW AND MORE SUCCESSFUL METHOD OF TREATING THEM,
RECOMMENDED AND EXPLAINED.

By JOSEPH AYRE, M.D.
MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, &c. &c.

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TO

JOHN AYRE, M.D.

THE FOLLOWING WORK

IS

AFFECTIONATELY INSCRIBED,

BY

HIS FRIEND AND BROTHER,

THE AUTHOR.

ADVERTISEMENT.

In putting forth the Third Edition of this work, I have not found it necessary to make any change in the doctrines delivered concerning Dropsy, nor any in the treatment recommended for it, as farther experience in both has only tended to confirm me in their truth and importance. I have greatly enlarged the Fourth Chapter, which consists of a selection of cases of Dropsy, as illustrating strongly the successful method of treatment recommended for it. In them, if I mistake not, will be found the proof of the superiority of the antiphlogistic method of treatment over the stimulant and tonic plan so commonly pursued in these diseases, and of the practicability of permanently curing many of those severer forms of the complaint, which it is too much the practice to treat with worse than palliatives, or wholly to neglect as incurable.

Hull, 1833. J. A.

PREFACE.

If evidence were wanted to show the unsatisfactory nature of the pathological views at present entertained of Dropsy, such evidence might be found in the number of the remedies recommended and employed in its treatment, and in the multiplied modes of their administration; for it may be assumed as an axiom in medicine, that a correct pathology is necessarily accompanied by a simplicity of prescription, and that the one may be regarded as the appropriate test of the other.

The illustrious Sydenham believed, from his success in a single case, that a drastic purgative was a specific for the cure of abdominal dropsy; and acknowledged, with the candour which distinguished him, the

surprise and disappointment he afterwards felt by its failure in other cases. Since his time, numerous medicines of various powers, and in pursuance of various objects, have, in their turn, been adopted and discarded; and such has been the confliction of opinions in regard to the efficacy of most of them, as to create, in the minds of many practitioners, an utter distrust of them all. The cause, however, of their failure has arisen, not so much from any intrinsic defect in the medicines themselves, as from the defective pathology which governed their use, and particularly from the neglect of an antiphlogistic regimen and treatment, which are necessary to give them effect — in regarding, in fact, too commonly, the serous accumulation as the only disease, with debility for its assigned cause, and the means employed for its removal, as the appropriate and only remedy for both.

To correct these, and other erroneous notions concerning the nature and mode of treating this disease, and to fix its pathology

on something like a rational and solid basis, are the objects of the following pages; and if, in the prosecution of this task, I have no acknowledgments to make to any individual writer as my guide and authority, I have, nevertheless, to confess myself indebted for many important facts to the writings of the late Dr. Wells of London, of Dr. Blackall of Exeter, and of Drs. Abercrombie and Duncan, junior, of Edinburgh, but particularly to the late Dr. Parry of Bath, whose System of Pathology may be justly classed among the most important contributions which have been made in modern times to Medicine.

Of the general views which I have given of this disease, I must be allowed to observe, that, under the amplest opportunities for verifying them, they have been entertained and acted on by me for a considerable time, and, during the last five years, have formed the substance of an annual lecture to a class of clinical students. And this I am the more particularly led to notice, from having seen, since these papers were committed to the

press, a copy of the Dictionnaire abrégé des Sciences Médicales, now in course of publication, in which I am gratified to find, that the doctrines of dropsy, maintained in the larger work, are there relinquished, whilst others, directly the converse of them, are given in their place, and which are conformable, in many respects, with those which it is the object of this treatise to establish.

Of the essay itself, which I now submit to the candid judgment of the reader, I may remark in conclusion, that it was originally composed as a part only of a more considerable work on the pathology of this, and some other chronic diseases; and that it was merely from the difficulty of compressing it into the required limits, that its separate publication became necessary: circumstances which will supply, I trust, both the reason and apology for the brevity with which some parts of its subject are disposed of.

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CHAPTER I.

ON THE PATHOLOGY OF DROPSY.

Dropsy is arranged and defined by nosologists as a disease. The watery effusion, however, of which it is considered to consist, is only one in a series of effects of a disease, and not always the last of that series. The true disease is to be sought for in that particular condition of the solids, by which the effusion is produced. To appreciate, therefore, justly the nature and treatment of Dropsy, it is necessary to understand the nature of that particular morbid condition of the solids which constitutes the disease, and of which the serous or watery effusion is merely the result.

Of the nature of that morbid state which gives rise to general and local dropsy, various hypotheses have been entertained; and the most plausible of these, more or less modified, still maintain their hold in the schools of medicine, and influence the practice of their professors. According to these, all dropsical accumulations arise, either, 1*st*, from a want of tone or energy in the absorbent vessels, by which the superfluous fluid of the part is insufficiently absorbed; or, 2*dly*, from an increased exhalation of the same proper fluid, through a similar want of tone in the exhalants; or, lastly, from a

mechanical obstruction to the free return of blood by the veins, produced by scirrhus or other disease, by which a greater portion of it is forced into the exhalants, and a greater effusion of their proper fluids is thereby occasioned. That these views, however, although supported by the authority of respectable names, and long prescription, are purely hypothetical, may I think be shown from the following considerations.

1*st*. The opinion of a want of tone in the absorbents, as a cause of dropsy, is contradicted by the fact, that in those cases, in which it is assumed to prevail, it is found that the adipose matter or fat of the body is removed by the absorbents; or, in other words, that emaciation takes place to as great an extent, and as rapidly, in this as in other diseases; and emaciation can only be effected by means of absorption. Besides, in these cases of dropsy, mercury, when rubbed upon the surface, or received internally, is absorbed as readily, and affects the system as early, as under other states of the body. There is also no accumulation of the fluids in the joints, or in the *bursæ mucosæ* in these cases, which, nevertheless, would happen if there was a general debility of the absorbent system; and *ecchymoses* or livid spots, though easily induced in anasarcous limbs, are likewise easily removed from them by the absorbents.

2*dly*. The opinion of a want of tone or energy in the exhalants involves in it one of the two following conditions; namely, either, 1st, that the

fluid of dropsy may escape mechanically from them, and that the fluid thus *mechanically* separated may be *identified* in its sensible and chemical qualities with another fluid which is confessedly *secreted;* or, 2dly, that if the fluid of dropsy be secreted, then that an *increase* in the quantity of a secretion may continue an indefinite period, under a *decrease* in the energy of its secreting vessels; conclusions to which experience and analogy are alike opposed.

3dly. With respect to the effusion arising from a mechanical obstruction to the blood's return through the veins, by a pressure of parts of a diseased viscus on the vessels passing through it, it may be objected, that an obstruction of the kind here contemplated has never been shown to exist. In the case of the liver, which is commonly considered, when in a scirrhous or enlarged state, to be the seat of these mechanical obstructions, and thus to be the cause of abdominal dropsy, we have no satisfactory instance yet shown to us of any such precise condition of that organ. There are, indeed, numerous instances of abdominal dropsies in those labouring under a scirrhous or enlarged state of the liver; but there are also numerous examples of such states of the liver, as well as of the spleen and other organs, without any such effusion; and in many cases, where such effusion has taken place, it has been carried off by the natural passages, or by tapping, without any return of the dropsy; and yet without any visible

change in the structural condition of the liver. If the cause were of a mechanical kind, existing within the liver, or other organs, the effect should be constant; and every scirrhous or enlarged state of these organs should be attended by the watery discharge; and tapping should be uniformly followed by its return. Besides, if we must recur to a mechanical cause as explanatory of the occurrence of water within the cavity of the abdomen, we have still to account for the appearance of such effusion, in cases where no disease of the liver, or other organ, exists; and, likewise, of its occurring in other cavities where no mechanical cause is asserted to be present, and where, in these several cases, the remedies by which the cure is effected have no relation in their effects to such causes. The hydrocele in men, and the ovarian dropsy in women, are purely of this latter kind; and these resemble, with respect to their symptoms and progress, and the sensible and chemical qualities of their fluids, the dropsical effusions of the abdominal cavity.

But farther: if the discharge depended upon a mechanical cause, the water should in every case be of a uniform fluidity, and the progress of its accumulation should be likewise uniform, so that the operation of tapping should have no tendency to induce a more rapid refilling of the cavity; yet the contrary of all this is a subject of daily observation; for the effused fluid in the same individual may be almost entirely aqueous at the first tapping;

in the next viscid; in a third perhaps be again aqueous; in a fourth again viscid, or of a wheyish or milk-like or of a brown colour, with the loss of its transparency. The effusion of the fluid likewise, instead of a progressive increase, is found frequently to cease after a certain portion is collected, and the disease thus becomes for a certain time stationary; and yet without any possible change in the relative condition of this the assigned cause. The effect of tapping, also, is usually to occasion a more rapid return of the water, and a necessity for a more frequent renewal of the operation; circumstances which are utterly at variance with the notion of any mechanical obstruction in the liver.

But experiments have been made upon the lower animals, with the view of determining this question, and the one made by Lower, of tying the *vena cava* of a dog, has been confidently appealed to as a conclusive argument in its favour. The inferences, however, drawn from the experiment are fallacious; for the experimenter, besides overlooking the agency of effects incidental to the operation, has committed the too common error of reasoning from the lower animals to man; and, therefore, has assumed, because ascites occurred in the dog, that it would also have happened in the human subject. But there was an effect, here overlooked, which was to be expected to take place in the abdomen of the dog, from the injury

done to the surrounding parts by the operation itself, and which would be quite independent of any effect arising out of the experiment. In the human subject this effect would be the highest form of inflammation, by which coagulable lymph or pus would be poured out upon the surface of the peritoneum. There would, therefore, be inflammation excited in the abdomen of the dog; but as the lower animals are less easily acted on than man, the inflammation would in this case be in a lower degree. But every degree of inflammation has its particular product. The highest occasions gangrene, or a discharge of pus, whilst the lowest, when seated in a serous membrane, is a larger portion of its proper serous fluid. This, therefore, might be the product of the inflammation which was produced incidentally by the experiment in the abdomen of the dog; and it would be just as reasonable to regard the coagulable lymph in the human subject, which would result from such an experiment, as an effect of the mechanical obstruction, as to consider the fluid effusion in the dog to be so.

Instances of diseases of the liver, connected with ascites, have been also noticed, in which there was, in addition to its other morbid states, a partial occlusion of the *vena portæ*, by the effusion of coagulable lymph into it. But such instances are rare, and will not be met with, perhaps, in the low proportion of one for several hundred cases of

ascites connected with hepatic disease; and in the cases where they may occur, we are warranted from analogy to assume, that any obstruction given to the circulation by the diseased vessel would be quickly relieved by the enlargement of the anastomosing branches; and that no effusion of water into the abdomen would result from it. For such has been found to happen in analogous cases, where this obstruction has occurred to the circulation through the *vena cava*, and where the liver became the principal medium by which the blood of the lower extremities, as well as of the abdomen, was conveyed to the heart; and where the relative proportion of the vessels of the liver, to the quantity thus required to pass through it, was equal to the lessening of one half of their calibres, under the ordinary condition of its circulation; and yet without any effusion of water into the abdomen or other parts. In the third volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, there is an interesting example of this kind communicated by the late distinguished anatomist, Mr. Wilson, and a reference made to three others, in which the *vena cava* was found completely obliterated as a tube, from the point immediately below where the *venæ hepaticæ* unite to it, downwards to its bifurcation; so that nearly the whole of the blood of the abdomen and lower extremities was obliged to pass through the liver in its passage to the heart, but

without there occurring any watery effusion into any part of the body.*

* The following farther particulars of this case, as bearing upon this question, may not be unacceptable to the reader. Besides the entire obliteration of the vena cava, the author proceeds to state that the coats of the emulgent veins and of their branches were thickened until they nearly reached the kidneys, and their cavities were filled with the same substance. Both the spermatic veins were remarkably thickened, and their cavities completely obliterated by the same process, as were the primary iliac veins, the external iliac veins until they had nearly reached the groin, and the internal iliac veins, with most of their larger branches, particularly those which returned the blood from the uterus. The whole of these vessels adhered so firmly to their corresponding arteries, as to render the separation of the one from the other impossible, without considerable injury to their coats.

The uterus was much larger than it usually is in its unimpregnated state; the coats of its principal veins were thickened, and their cavities partially obliterated. The smaller branches, both in its substance and on its internal surface, were very numerous, and much distended with blood.

The vessels of the lower extremities I found, upon a careful examination, to be in a perfectly natural state; no undue accumulation of blood had taken place in the veins, nor had any watery fluid collected in the cellular membrane.

As the stoppage of the circulation in the large veins below the diaphragm (excepting in those of the liver) was so complete, a wish naturally arose to ascertain with accuracy the principal channels, by which the blood, usually returned by them, had reached the heart.

In attempting this, I found that the anastomosing branches of the veins on the sides and back part of the pelvis were much enlarged, as were also those between the vena saphæna major, and the branches accompanying the deep-seated arteries passing through the foramen magnum ischii and the sciatic notch.

Morbid conditions of the heart, of an analogous kind, are likewise noticed by various writers, by

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Large communications were seen filled with fluid blood between the venæ pudicæ externæ, and the lower branches of the vena mesenterica inferior, which was enlarged to treble its usual size.

The veins coming from the sinuses of the dura mater in the theca vertebralis, the sinuses themselves, and the veins entering them were much enlarged, and the communications between them and the sacral and lumbar veins were, by the blood contained in them, rendered very apparent. The enlarged branches of the lumbar veins formed such easy communications with each other, as to allow a passage through them to a very large quantity of blood, which entered the vena azygos by the anastomosing branches of its lower part. This vein, although three times larger than it commonly is, was without the varicose appearance described by Dr. Baillie. The emulgent and phrenic veins communicated largely with the lumbar veins and the vena azygos.

By means, therefore, of the increased size of the veins which have been mentioned, and the enlargement of their anastomosing branches, the blood, which had formerly been returned by the trunk of the vena cava inferior, in consequence of the complete obliteration of this vessel from the liver downwards, reached the heart, by a more circuitous course indeed, but with so little difficulty, that no real impediment was occasioned to the general circulation. The blood passed from the venæ pudicæ externæ into the inferior mesenteric veins, and from thence to the vena portæ; it circulated afterwards through the liver, and entered the lower part of the right auricle of the heart, by the very small portion of the vena cava inferior which remained pervious, viz. between the auricle and venæ cavæ hepaticæ. The remaining part, having reached the vena azygos, passed from it into the vena cava superior, and entered the same auricle from above.

which the course of the circulation became greatly obstructed, and yet without being followed by an effusion of water. A remarkable example of this kind, which may be selected *instar omnium*, is related by Dr. James Johnson in the last volume of the Medico-Chirurgical Transactions*; where the parietes of the left ventricle of the heart were so thickened, and the capacity of the cavity so contracted, as to render it unequal to the containing of more than two or three drachms of blood; and from which, therefore, there arose an habitual distension of the inferior vena cava, and a consequent extraordinary dilatation of that vessel, as effects of the obstruction that was given to the transmission of the blood through the heart; and yet without the occurrence of any effusion, either into the chest or abdomen.

From these facts, therefore, and others to be presently noticed, it appears to me conclusive, that the dropsical effusion, in whatever part it may be seated, does not arise from any want of tone in the exhalant or absorbent system, or from any mechanical obstruction in the liver or other viscus; but that it proceeds from a morbid action in the cellular or serous tissues, and that this action, as we shall now proceed to show, is allied in its nature to inflammation.

In support of this view of the subject, it may be remarked, in the first place, that all the phenomena

* Vol. XIII. part i.

belonging to cases of watery effusion, met with under one or other of the forms of inflammation, are common to those of dropsy. The fluid discharged under the cuticle from an inflammation of the erysipelatous kind, or from that induced by heat, or by the irritation of a blister, is distinctly a secretion, and resembles in all respects the fluid that is found in abdominal or other dropsies. The fluid collected in *pemphigus*, which, it is well known, is a disease commencing with detached inflammatory spots, and terminating, after some hours, in watery vesicles, resembles in like manner the dropsical effusion. In some cases of acknowledged inflammation, the fluid effused is found to vary greatly in its degrees of tenuity, so as to be sometimes of quite a viscid nature. The same is observed of the water of dropsy, so that it runs with difficulty through the canula in the operation of tapping; and instances even have been met with, where the effusion consisted of a mass of jelly, and which could only be extracted in detached portions*, from a considerable opening made for that purpose in the abdomen. And this variable condition of the dropsical fluid may be met with in the same patient, on one occasion of drawing it off, and not on a succeeding one. A similar variation in the degrees of tenuity is likewise observed in the fluid discharged into the cellular tissue, constituting anasarca; so that the

* See Dictionnaire des Sciences Médicales, art. Hydropisie.

œdematous parts, when punctured, either discharge no fluid, or do it very imperfectly.

To the views here taken of the identity of these actions, it may, however, be objected, that the entire absence of pain in the ordinary cases of local or general dropsy is irreconcilable with the notion, that the action producing them is the same which arises from the irritation of a blister on the skin, and still less the same which produces a watery effusion into the ventricles of the brain; but the great differences in this respect are referable purely to the very different degrees of sensibility with which these parts are endowed; though in pemphigus, be it remarked, which is a disease of the skin, and confessedly inflammatory, there is no pain preceding the vesication. The serous membranes lining the cavities of the chest and abdomen have their sensibility little increased under chronic inflammation; and hence it is a common circumstance for persons to die of diseases, seated in these parts, without ever having experienced much pain from them; and in whose bodies, nevertheless, after death, there are found the traces of very extensive chronic inflammation.

It may be also objected, that the suddenly increased effusion of tears in weeping, or of the saliva in certain states of the stomach, or of the matter of sweat when profusely perspiring, &c. are severally the result of an action which is unallied to inflammation; and that a sudden effusion, therefore, may take place from a serous membrane, from a condi-

tion of its vessels equally remote from that state. But there is, in reality, no analogy between the cases; for it must not be forgotten, that the suddenly increased discharge of tears, &c. occurring on these several occasions, results from a law which pertains to the economy of the parts secreting them, and whose final cause (and which is alone the rule by which every law of the system is framed) is the *benefit* of the human frame; whereas no such law can belong to the economy of the serous membrane, causing an undue effusion from it, any more than of the tissue lining the cavities of the joints, or the bursæ mucosæ, &c., since the final cause of such a law would not be the benefit, as in the other cases, but the *injury*, and often the *destruction* of the body.

2dly. But it may be farther shown, that the morbid action, which produces the watery effusion, is only another condition of inflammation; since it obeys the same laws. Thus, it is a well known property of inflammation to be suddenly translated from one part of the system to another, and which is termed a metastasis. This property is also observable in the action producing the serous effusion; and although it has been supposed to be only the fluid which is thus suddenly removed from one part of the body to another, it is unquestionable, that, in all these cases, the metastasis is exclusively of the action which produces the serous discharge. The action, likewise, occasioning the effusion, as seen in anasarca, usually commences at a given

point, and is gradually extended thence in a continuous course, analogous to what occurs in inflammation, and particularly in the erysipelatous kind, to which it bears a very strong resemblance, and into which, indeed, it is easily convertible.

But farther: the results of inflammation, it is well known, vary according to the intensity of the cause. The lowest degree of it occasions an increase in the quantity of the proper fluids of the part. In the mucous membranes, the product is a mucous fluid, too well known to require to be described. In the serous and cellular tissues it is a transparent, and, usually, a limpid fluid, consisting principally of serum, and more or less charged with albumen, according to the amount of this lowest degree of inflammation. A higher degree of inflammation yields for its product coagulable lymph; a still higher one produces pus. All these several products of inflammation are more or less remedial of their cause; or, in other words, they are the immediate means of the cessation or abatement of the inflammation which produced them. This is observed in the lessening or removal of the pain of a blister, immediately upon the completion of the vesication. Similar remedial effects take place upon the occurrence of suppuration in a common phlegmon. Now the same power of proving remedial to the inflammation, which is observed to belong to the effusion of a blister, is likewise a property, though in a much less degree, of the hydropic effusion, when the inflammation

which produces it is idiopathic; or, in other words, is not created by a visceral or other disease. Hence the familiar fact of the cessation of pain in the extremities, on their becoming anasarcous; and of an effusion, which has begun to take place into a cavity, becoming sometimes temporarily suspended, and particularly so in ovarian dropsy, and in hydrocele; and of the effused fluid continuing for several months, and even years, in its sac, without any sensible addition being made to the quantity, until, by some accidental cause being superadded to the original one, the inflammation in the serous tissue is again renewed.

And here it may be proper to remark upon a common error committed by those, who, mistaking the nature of the action which produces the serous effusion, look in the *post-mortem* examination for some of the common signs of an inflammation having existed; and who conclude, upon not finding such, that the water was derived from some mechanical or other cause, foreign to the true one. But in the higher forms of abdominal inflammation the products are pus or lymph, and these are found upon the surface of the peritoneum, with sometimes a thickening and discoloration or ulceration of its substance; and these, therefore, attest the previous existence of inflammation as their cause, whilst in the lowest form of that increased action to which the serous membranes are subject, the only product is the serous fluid, and there can be,

therefore, no visible alteration produced by it in the structure of the serous tissue.

3dly. By the inflammation of the serous tissue obeying the same laws which govern inflammation in other parts, it follows, that upon a higher excitement being superinduced upon it, the serous effusion should cease. This, therefore, is found to happen in every case where such higher excitement is brought on. This increased inflammation is sometimes occasioned by design or accident, and, at other times, it occurs in the natural and progressive course of some disease, formed within the cavity, which is the seat of the dropsical effusion; and where the morbid action, by extending to the peritoneal covering, had first given rise to the hydropic excitement. Of the effect of such higher inflammation, we have a familiar instance in the radical mode of cure employed in the treatment of hydrocele. In these, in the first instance, there is that degree of local excitement which terminates in the watery effusion. When, as we have just observed, the primary excitement is inconsiderable, or soon allayed, the effusion is in small quantity, and is remedial of its cause; since it will continue in its sac for many years without any sensible increase. By tapping, a slight excitement, similar to that which primarily produced the effusion, is renewed, which leads to an earlier and more abundant discharge, than that which had previously occurred. To cure it, therefore, a higher inflammation than the mere tapping can produce, is pur-

posely brought on by the injection into the sac of a stimulating liquid; by which, instead of the discharge of the former fluid, there is one of coagulable lymph; and a union of the sides of the cavity being thereby induced, a cure of the dropsy is effected.

The same effect of a higher excitement is sometimes accidentally produced in ovarian dropsies, by some untoward circumstances attending the operation of tapping. In general, such cases prove fatal, by the mischief which ensues upon the inflammation. Sometimes, however, the inflammation is more moderate, and proves remedial of the watery effusion.

An example of this kind occurred in my practice more than twenty years ago, which will illustrate well the nature and cause of hydropic effusion, and of the power of a higher excitement to remove it. It was the case of a female, who, for the first time, was tapped for an ovarian dropsy, which she had laboured under several years. The discharge through the canula having suddenly stopt when about two thirds of it was drawn off, the surgeon introduced his probe to remove the obstacle. In doing this, he produced a slight hemorrhage, and some degree of pain; and for several days succeeding, there was much constitutional irritation and general fever, with considerable risk to the patient's life. After a difficult struggle she recovered; and with the agreeable result of having the ovarian

dropsy so radically cured, as to be now, after so many years, still alive and free from it.

The same consequence would ensue in abdominal dropsy, if the same increased excitement could be safely brought on in that cavity; but the contents of the abdomen are of a vital character, and every degree of excitement, above the one producing a serous effusion, is destructive of their organisation. In numerous cases of tapping for ascites, where there is much disease about the liver, or the other viscera, the higher inflammation, here referred to, does take place, and frequently with a fatal effect. The same occurs sometimes by the progressive increase of the disease in some one of these organs; so that a patient may labour under ascites at some period during the fatal progress of a disease in the liver, or other viscus, and be relieved from his dropsy some weeks, or even months, before his death. In these cases, the morbid excitement of the peritoneal covering, which was merely sufficient, in the early part of the disease, to pour out the serous fluid, becomes increased to a degree that is incompatible with the serous secretion; and coagulable lymph is thrown out upon the surface, and in the interstitial parts of the serous membrane, by which it becomes thickened, and otherwise deranged in its structure and office.

In illustration of this, I may mention the case of a gentleman whom I attended some years ago, with my friend Mr. Watson of Cottingham. This patient, having laboured several years under the

well-marked symptoms of diseased liver, brought on and perpetuated by intemperance, became afflicted with ascites; the fluctuation of the water being remarkably distinct, and the body exceedingly large. We were deterred from tapping by the apprehension of its danger in his case; and after a long trial of diuretic medicines, the water was ultimately and entirely carried off by the kidneys. His dropsical symptoms never returned, although he survived a twelvemonth; but his other symptoms were left behind unremoved. On inspecting the body after death, we found the peritoneal covering of the liver, and the organs adjoining it, of a nearly perfectly white colour, and of the thickness of chamois leather; and this appearance pervaded the peritoneum, more or less, through the whole abdomen; whilst the liver, stomach, duodenum, and arch of the colon, and the other organs in their neighbourhood, formed by their union nearly one undistinguishable mass, which not even a careful dissection could disjoin.

A similar case to this occurred in a child in the same village, whom I saw with Mr. Watson. The little patient had mesenteric disease, which occasioned an ascites. After some time, this latter complaint was removed during the use of diuretic medicines, and *never returned;* but the disease itself increased, and in a few weeks the child died. The appearances on dissection exhibited indications, like the last, of there having existed a higher

inflammation in the peritoneal membrane, than that which gives rise to serous effusion.

Now from these, and numerous examples of the same kind which have fallen under my observation, I think it may be assumed, that ascites, when proceeding from some visceral disease (and the principle applies to hydropic effusions from the presence of disease in other cavities), does so by the gradual extension of the chronic inflammation of the internal cellular or serous tissues of the diseased organ, to its outer external covering; and that, commencing here as from a point, the inflammation is progressively propagated through the whole of the serous membrane of the cavity. By the disease within the cellular tissue of the diseased viscus increasing, a corresponding increase, in these cases, will ensue of the disease on the surface of the membrane investing it; until at length a susceptibility to take on a higher action is induced, which only requires any slight occasional cause to establish. Under this condition of an increased excitement in the peritoneal or other serous membrane, coagulable lymph is discharged into its cellular tissue, and a thickening of it takes place; until at length the operation of paracentesis, which, in the early stage of the disease, was attended with only inconsiderable inconvenience, becomes an adequate cause of a still higher inflammation, which terminates perhaps in suppuration; and, in the *post mortem* examination, the serous fluid is found so mixed with coagulable lymph, and purulent matter, as to give

a whey or milk-like appearance to the mass. The quantity of the serous fluid, in these cases, is generally small when compared with what was accumulated in the intervals of former tappings; for the vascular excitement, which occasions the discharge of coagulable lymph, is destructive of that which pours out the serous fluid.

4thly. But beside the particular facts deduced from observations on dropsy as a local disease, and which go to prove its relation to diseases of local excitement, there is a farther and considerable support to be given to these views by various proofs that are afforded, and particularly from observations made upon the urine, of the inflammation producing local dropsy being frequently connected with one of a general kind; so that the inflammatory state of the system becomes sometimes a cause of the effusion into a cavity, by the local excitement it produces, and at other times an effect of this state; and that thus the general inflammation, according to the order of its occurrence, may prove either a cause or an effect of the local one. The subject is of itself highly curious, and the profession are under great obligations to the late Dr. Wells*, and to Dr. Blackall† of Exeter, for the

* The following extract is taken from a valuable paper by Dr. Wells, published in the third volume of the Medico-Chirur-

† See his work, entitled Observations on the Nature and Cure of Dropsies, &c. Longman & Co. 1813.

very important contributions which they have made towards its elucidation. From the facts, however,

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gical Transactions of 1812, in which that gentleman gives the result of his observations on the urine of one hundred and thirty patients labouring under different forms of dropsy: —

"Among twenty-nine cases of dropsy of the skin," observes this writer, "which were not preceded by any disease to which dropsy is generally attributed, there were twenty-three with urine containing serum. The proportion of these cases, therefore, to the six without serum in the urine, being nearly as four are to one, is very much higher than that of the whole number of instances of dropsy with serous urine to the whole number free from it, this being only as seventy-eight are to fifty-two, or as three to two. The proportion of considerable cases in this class is also very great; for out of five instances of the urine being made firmly solid by heat, and of seven being made a soft solid by like means, which occurred among one hundred and thirty cases, two of the former, and four of the latter, were found in the twenty-nine cases, which form the subject of the present article. Of the remaining seventeen cases with urine containing serum, the quantity of serum was in nine considerable, though less than in those of the two preceding divisions; the urine of three had a still less quantity, and that of five but a small one.

"On the other hand, of nine cases of dropsy of the skin, apparently arising from weakness, the urine in seven was altogether without serum. Two of the latter occurred in old dysentery, one in chlorosis, one in chronic rheumatism, two after agues, and one after profuse bleeding, which had been employed to remove a great inflammation in the chest. — In the eighth case, which took place after ague, and in the ninth, which occurred in chlorosis of very long standing, there was a small quantity of serum in the urine.

"The presence, therefore, of serum in dropsical urine seems to be independent of weakness. It would appear, on the

respecting the condition of the urine, collected and recorded by these intelligent writers, as well as

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contrary, from the full and frequent pulse which frequently accompanies it, to be connected with too great action in some part of the system. This is rendered further probable, by the patient's often suffering great pains in the loins and limbs, both before and after the appearance of the dropsy, as was formerly remarked. An argument, indeed, may be brought against this opinion from the fact, that there was no serum in the urine in six of the cases, which had not been preceded by any other disease. But not to mention that weakness may arise without any previous *apparent* disease, those who are acquainted with hospitals will readily acknowledge, that it is often very difficult, and sometimes impossible, to obtain a tolerably accurate account of what has happened to patients, before their admission.

" In one case of dropsy of the skin, which followed quickly the application of cold to the body, and was attended with catarrh, and in another, in which the liver was evidently diseased, though there was no perceptible fluid in the abdomen, the urine contained no serum.

" The most common cause of dropsy of the skin in this country, or rather, perhaps, the circumstance which most commonly precedes it, is a disease of the chest, manifested by cough and difficulty of breathing. I examined the urine in thirty-seven cases of this kind, to discover if it contained serum, and found it in twenty-four. In three of these the urine became a soft solid, upon being heated; in two, the quantity of serum was great, but less so than in the preceding three; in five, the quantity was still less; and in fourteen, it was very small. In the whole twenty-four there was probably extravasated fluid in the chest; but I have placed them under the title of dropsy of the skin, as there was commonly no symptom of considerable disease of the chest. I shall delay making any further observations on the urine in these cases, until I have spoken of hydrothorax.

" Of twenty cases of hydrothorax, all of them attended with

from others that have occurred to myself, from an attention long directed to the subject, there are

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dropsy of the skin, the urine was found in fourteen to contain serum, which, however, was in considerable quantity only in one case, and in this the urine was not made solid by heat. In one of the six cases without serum in the urine, there were manifest symptoms of a disease of the heart, or the great blood-vessels in its immediate neighbourhood; but in the urine of three other patients having similar symptoms, there was a small quantity of serum. — Five of the twenty cases were accompanied with ascites, but as the hydrothorax appeared to be the principal disease, I have classed them under it. In two of the instances of this combination there was no serum in the urine; in three there was a little.

" From a review of these cases of hydrothorax, and of those of dropsy of the skin after a disease of the chest, it appears, that in proportion as they were unlike the cases of dropsy of the skin without any known cause, the probability was less of finding any considerable quantity of serum in the urine; or, in other words, the greatness of the disease of the chest always lessened the probability of any great quantity of serum being found in the urine. Thus of thirty-seven cases of dropsy of the skin after a disease of the chest, only five had much serum in the urine, and only one of hydrothorax out of twenty; whereas among twenty-nine cases of dropsy of the skin, without any ascertained cause, there were fifteen instances of the urine holding a considerable quantity of serum. It seems to me, therefore, that effusion of water into the chest, or under the skin after a disease of the chest, constitutes, for the most part, a very different disease from that which is occasioned by the effusion of water under the skin, when the effusion has not been preceded by any other disorder of consequence. There is, indeed, an appearance here of a want of an entire uniformity in the operations of nature; but this appearance, in all probability, arises

certain conclusions deducible, which appear not to have been contemplated by those gentlemen, but which are strictly accordant with the pathological views which I have endeavoured to establish in the foregoing pages.

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from a sufficiently long and accurate attention not having yet been given to the subject.

"My success has been greater in arranging accurately the cases of ascites, in which I have made experiments on the urine, with the view of learning whether it held serum or not.

"In four cases of that disease in women, which were evidently of the encysted kind, the urine was altogether without serum. Three of them were attended with watery swellings of the limbs.

"In fourteen cases of the same disease apparently not encysted, and in the histories of all of which I either have marked that the swelling of the limbs had followed that of the abdomen, or have taken no notice of an external swelling, there was likewise no serum in the urine.

"In seven cases, in other respects similar to the above-mentioned fourteen, there was a very little serum in the urine.

"But with respect to ascites which is distinctly preceded by dropsy of the skin, the result of my observation has been very different. These have been made in eight cases, in seven of which the swelling of the abdomen had occurred under my own eyes; and in regard to the eighth, I had a history of what had happened, both from the patient himself and from his physician, that leaves no doubt concerning it. In three of these cases the urine was made entirely solid by heat. In two others the quantity of serum in it was considerable, but still not sufficient to occasion an entire coagulation when heat was applied. In the remaining three the quantity was somewhat less considerable. It appears, therefore, that ascites, following dropsy of the skin, differs greatly from ascites, which either precedes dropsy of the skin, or is not accompanied by it."

According to these facts it appears, that when the disease of dropsy is under a subacute form, and of the anasarcous kind, it is usually idiopathic, and often originating from cold; and in this state, as well as in the symptomatic form, though in a less degree, the urine is found to contain a portion of serum. It is nearly peculiar to this disease, and denotes, according to the quantity of it contained in the urine, the amount of that excitement in the cellular tissue, and of the general vascular system, which may be termed serous inflammation: for it is met with most considerably in those forms of the disease, in which these particular states of the body are most apparent. The urine, therefore, with some occasional exceptions, is loaded with serum in the greatest abundance in those cases, where the effusion into the skin precedes the local dropsy, and which denotes the operation of a general cause; whilst, on the other hand, it is, although commonly present, yet in smaller quantity where the anasarca succeeds the other form; since this order in their appearance indicates the existence of a local disease, as a cause both of the local and general affection. It is, therefore, in the sub-acute, and idiopathic forms of dropsy, that this state of the urine prevails the most; and it is in this state, with some occasional deviations, that the defective action is most conspicuous of the excretory functions of the kidneys, but especially of the bowels and skin, as shown by the scantiness of the urine; and par-

ticularly by the costiveness, and the unperspirable state of the surface.

In the dropsy following scarlatina, and which is idiopathic, and commonly from cold, favoured by a particular predisposition induced by the eruptive complaint, there is generally the greatest quantity of serum, and with it the most decided marks of vascular excitement, as indicated by the state of the pulse, the condition of the blood, and the beneficial effects of the antiphlogistic plan of treatment. But the urine, likewise, as we have just observed, is found to contain serum in cases of anasarca, when symptomatic of visceral disease; for the disease of the viscus, which is the cause of the local inflammation in the serous membrane of the cavity, may produce an adequate degree of that general vascular excitement in the serous tissues, which gives rise to a serous discharge from it.

In the practical application, however, of the principles here stated, difficulties will occur to the practitioner. Some of these will arise from extraneous causes acting on that secretion, by which the natural effect of the disease upon it may be counteracted; or from causes proper to the disease itself; by which an apparent want of uniformity may be occasioned, in regard to its occurrence, under apparently similar conditions of the disease. I may, therefore, observe summarily in regard to the subject, and without at this time entering farther or more minutely into it, that there appear

to be four distinct conditions of the system by which its occurrence is regulated.

1. It is in the greatest quantity, where, along with a copious and continued effusion, there is a nearly corresponding quickness in the absorption of the serous fluid, and which will occur most commonly when the general excitement precedes the local one.

2. It is consequently, *cæteris paribus*, in a less quantity where the general excitement in the serous tissues succeeds, and is dependent on, the local one.

3. It is absent, or found only in a minute proportion, in all those cases where the local increased action in the serous membrane is only partially extended to the rest of the system, and where the absorption from the part is inconsiderable; as particularly happens in the encysted kinds: or,

4. Where the effusion of the serous fluid has proved remedial of the inflammation producing it; in which case the disease, as it respects the presence of water in a part, may visibly resemble another example, and yet be essentially different from it, by the inflammation, which produced it in both, having ceased, on its occurrence, in one of them.

5thly. But there is a farther evidence of the relation which dropsy bears to diseases of local excitement, deducible from the effects which it produces on the general system. The serous secretion, although a fluid of a unique kind, consists, as its name implies, of a considerable portion of the serum of the blood, with a variable proportion of

albumen. Pending its continued effusion in anasarca, there is a certain, and, sometimes, a large quantity, daily absorbed and carried out of the body, so as to make even the flow of urine appear considerable. There is, therefore, a regular draught made upon these nutrient principles of the blood, by their habitual effusion and discharge from the body; and which must create effects like those which arise from the continued discharge of pus from a suppurating surface. In both cases, the local disease, according to its extent and duration, will necessarily occasion an exhaustion of the vital powers; and there will in both cases be induced that condition of the system, which is termed cachexy. The exhausted or cachectical state, therefore, of the system, which has been so variously accounted for, and so frequently assigned as a principal cause of both local and general dropsy, is a direct consequence of the agency of some power diminishing the vital strength at its source; and in the case of a chronic and long continued inflammation in the serous tissues, it will arise from the abduction from the circulation of a portion of its vital fluid: and whether it be pus or serum that is drawn from the body, or whether it be from any permanent failure in the supplies of nutriment to it, the effect will be the same, as if a certain quantity of blood was daily abstracted from the system. Under the diminution of energy in the vital powers, whether in this or in some other way occasioned, a suppurating surface will readily

fall into gangrene from any general cause temporarily exciting it; and in this state of the system, therefore, a higher inflammation may sometimes supervene upon an œdematous limb, and, in like manner, terminate also in gangrene. Hence, therefore, that tendency of dropsical parts to fall into gangrene, which has been urged as a proof of debility being the cause of the serous effusion, is only what is common to other forms of local inflammation, under a similar condition of the body. Nor will it create any difference in relation to the gangrene, whether the inflammation in the serous membrane accidentally arises, as the other forms of locally increased action frequently do, under an exhausted condition of the vital powers; or whether it leads to that state, as they often do, by the debility induced in the system through some long-continued and weakening discharge from it: for the inflammation and the gangrene succeeding, which occur in this, and in the other cases, although local in their seat, derive their origin exclusively from the constitution.

A farther evidence of the truth of the pathological principles here exhibited might be drawn from the nature of the remote causes of dropsy, and of those several means which promote or retard its removal; but these, as well as other points which bear upon the question, will come more properly under consideration in the observations immediately to be made upon the principal forms of the disease; and I shall, therefore, close this

part of my subject by a brief recapitulation of the general pathological conclusions, with the facts supporting them, which in the foregoing pages I have endeavoured to point out.

RECAPITULATION.

I. The term Dropsy, though employed by nosologists to designate a disease, whose essence is considered to consist in a serous effusion, must be understood as denoting only one of a series of effects, and not always the last of that series, arising from a morbid condition of the serous and cellular tissues of the body.

II. The serous accumulations from these tissues do not occur, as is commonly but erroneously supposed, from any want of tone in the absorbents; or from a similar state of the exhalants; or from a mechanical obstruction to the blood's return by the veins. For, in respect to the first of these assigned states, it can be shown, that, pending its assumed existence, an absorption readily takes place of the adipose matter or fat of the body — of ecchymoses or livid spots under the skin — and of mercury and other absorbable matters rubbed upon its surface, or taken internally; — and there is no accumulation of the sinovial or other fluids in their cavities, consentaneously with the serous accumulation.

III. The opinion of the effusion depending upon a debility of the exhalants, involves in it the dif-

ficulty of supposing, either, that there may be *mechanically separated* from the blood a fluid, which at another time is *secreted* from it; or, that an increase in the quantity of a secretion may continue an indefinite period, under a permanent debility of the secreting vessels.

IV. The theory of a mechanical obstruction being a cause of local dropsies, is disproved by the facts, that every assignable degree and kind of visceral disease is met with without any local dropsy; and local dropsy without any discoverable visceral disease; — by the varying degrees of rapidity with which, during given periods, the course of an accumulation proceeds; — by the varying degrees of tenuity of the serous discharge in successive effusions into the same cavity; — by the nearly uniform tendency of tapping to occasion an earlier renewal of the serous accumulation; — and, lastly, by a direct evidence being afforded, that mechanical obstructions to the circulation, of the most direct kind, and very greatly exceeding those assumed to exist as causes of local dropsy, may occur, both temporarily and permanently, without producing the slightest appearances of a serous discharge.

V. That the effusion, therefore, arises from some particular action in the serous tissue, and that this action is identical with inflammation, is assumed, from several of the foregoing facts; — from the identity of the fluid of dropsy with that produced under some of the recognised forms of inflammation,

even to the varying degrees of their tenuity; and from the action proper to dropsy obeying the same laws which govern inflammation generally. Since,

VI. The action producing anasarca is propagated gradually by a continuous course along the serous tissue, as happens in common inflammation; — is subject to metastasis; and is convertible into the higher forms of increased excitement. For the cellular membrane, in common with the other tissues of the body, is subject to various forms or gradations of inflammation. The highest is that in which pus is secreted; the second occasions a discharge of coagulable lymph; the lowest produces, as its result, an increase more or less modified in the natural secretions of the part, and which, when produced in excess by natural causes, constitutes dropsy. Of these, therefore, the highest form, when supervening upon it, is destructive of the action producing the lymph, and this of the action producing the serum; and the effusion, whether of pus, or lymph, or serum, may be alike remedial of the excitement producing it, where that is not continued by a permanent cause.

VII. The inflammation of the serous membranes producing a local dropsy, beside the causes hereafter to be noticed, may arise from some disease existing in the serous membranes of a cavity; or it may be secondary to a chronic inflammation in some viscus, and which, by a slow and progressive action, is propagated to the serous membrane investing it; whence, as from a point, it gradually

spreads along the membranous duplicature of the cavity. When once established, it may be continued as a chronic affection, independently of its primary cause; whilst, on the other hand, it will be aggravated by all those causes which increase the visceral disease; and even to the extent of having a higher inflammation superinduced upon it, by which coagulable lymph may be poured out, and a farther effusion of water be prevented.

VIII. Besides the proofs deducible from the particular phenomena of local dropsy, farther evidence of its depending on an inflammatory action is derived from being sometimes connected with, and at other times arising from, a similar excited state of the general cellular tissue, as denoted by the presence of serum in the urine, and sometimes by the state of the pulse, and of the blood; and which excitement may be either idiopathic, when it is usually most considerable, or symptomatic of a local disease. The absence of the serum from the urine, in the milder forms of the disease, may depend upon the insufficiency of the remote cause to act upon the general system; or upon the insufficiency of the local disease to induce the morbid action there; or it may depend upon the effusion into the serous tissue having removed the excitement which occasioned it.

IX. And, lastly, there is a constitutional effect arising from a permanent hydropic effusion, which agrees in its nature with that which proceeds from a long continued purulent discharge; both of

them being akin to the effects which proceed from an habitual hemorrhage, or from such other cause, as either withdraws or withholds from the blood one or more of its nutrient parts. The gangrene, therefore, which supervenes upon an œdematous limb, under the cachexy induced by any of these causes, is only what is common to the other degrees of inflammation under that condition of the system; and whether the hydropic state, or any other degree of inflammatory action, precedes, or follows, as the cause or consequence of the cachectical state of the body, the gangrene which ensues is alike derived from the constitution.

CHAP. II.

From the view which has now been taken of the Pathology of Dropsy, it may be collected, that the effusion of the serous fluid is to be considered as arising from a local vascular excitement in a serous tissue, which, for convenience, may be termed serous inflammation; being the lowest assignable grade of that increased action of their vascular system, to which these structures are subject. This excitement may be either,

1*st*. Sub-acute, or chronic.

2*d*. Symptomatic, or idiopathic: that is, 1. It may arise from a local disease; or, 2. From the common causes of inflammation; and these causes may be either general or particular.

3*d*. The inflammation, whether idiopathic or symptomatic, may be either local or general, giving rise to a general or a local effusion.

By the correctness of the judgment formed concerning any given case of dropsy, in reference to these distinctions, must depend the correctness of our indications of cure in the treatment of it. We now proceed to the consideration of the principal forms of the disease, and which are, 1. Hydrocephalus internus; 2. Hydrothorax; 3. Ascites; 4. Ovarian dropsy; 5. Anasarca.

Section I.

HYDROCEPHALUS INTERNUS, OR DROPSY IN THE BRAIN.

1. This disease consists in the proper inflammation of the membranous, or of the cellular or interstitial, tissues of the brain, by which an effusion of water takes place from them. It has been divided, by the writers of this country, into acute and chronic; and in a certain sense correctly: for sometimes its course is rapid, and will be completed in a few days; and at other times it runs on for several weeks before terminating fatally. The terms acute and chronic, however, must be understood as restricted to that particular form of inflammation producing a serous effusion, and not as denoting the highest and lowest degrees of inflammation. From the want of sufficient accuracy, in respect to the terms employed to denote the condition of the brain under this disease, much confusion has arisen in the notions entertained concerning it.

Dr. Golis*, in his work on this disease, has defined it to be an effusion of pus, or lymph, or serum, or a mixture of these, into the ventricles of the brain; and, in conformity with this definition, has divided it into the hyper-acute and acute. But

* A Treatise on the Hydrocephalus Acutus, or Inflammatory Water in the Head, by Leopold Antonio Golis, M.D. Translated from the German, by Robert Gooch, M.D. 1821.

the hyper-acute and acute of this writer, are nothing more than the acute and sub-acute phrenitis of nosologists, in which pus or coagulable lymph are the proper products, with sometimes a serous effusion into the ventricles as an *incidental* one. To term that a dropsy of the brain, therefore, which may only consist, according to Dr. Golis's definition, of an effusion of pus or lymph, is chargeable with the same degree of incorrectness, as it would be to name similar effusions of pus or lymph under peritoneal inflammation, a dropsy of the abdomen. The serous tissues of the brain, in common with similar structures in other parts of the body, are subject to the various degrees of inflammation; and these several degrees have their respective products of pus, or lymph, or serum, and which may occur in the same case, either separately or in combination, according to the seat and respective degrees of the inflammation. When in combination, it may be from a slight degree of excitement arising in the membranes lining the ventricles, consentaneously with a higher inflammation in some part of the investing membrane; or conversely of this order. It may also occur as an effect of it, and an effusion of serum may thus be combined with one of pus or lymph; but if the higher inflammation primarily arise in the ventricle, or extend to it, the result will not be serum, but pus or coagulable lymph: and cases of all these kinds, both separately and in combination, are met with; and many of them answer, in their symptoms

and results, to the water-stroke of the German writers.

Now, the true hydrocephalus internus stands distinguished from these, in the nature of the inflammation of which it consists, in the same way precisely, that the inflammation of the pleura, producing simple hydrothorax, is distinct from that higher degree of vascular excitement, which occasions an effusion of pus or lymph. Relatively to these, therefore, this disease is in a chronic form; and consists, we may repeat, of that lowest degree of inflammation to which serous membranes are subject, and the effect of which is to increase the natural secretion of the part, so as to cause, in regard to the brain, an accumulation of that fluid in its cavities.

Sometimes this disease appears to come on more slowly in some, than in other cases, from differences in the nature of the remote causes, assisted, perhaps, by some cause connected with the state of the system, or of the brain, affecting its predisposition to this disease: but, in some of these instances, the inflammation producing the effusion will differ only from the other examples, in being less extensively diffused through the serous tissues of the brain; so that, by the more gradual effusion of the fluid, the brain will acquire a capability of bearing for a considerable time the pressure of a quantity of water, which, if suddenly effused, would instantly prove fatal. In many cases, on the other hand, the disease is merely chronic in regard to the form of

its approach; so that, upon the developement of the inflammation, it displays all the characters of what is termed the acute kind, and runs its course as rapidly.

The dropsy of the brain is usually divided into three stages. The first stage is that in which the vascular excitement of the brain exists, and in which the prominent symptoms are, a pain in the head, rapidly increasing in acuteness with the increase of the disease, and denoted in infants, by a restless movement of the head upon the pillow, and by moaning and occasional sudden screamings; by sickness and retching; impatience of light and noise; contraction of the pupils, and delirious terrors, &c. The second, where the symptoms indicate a pressure upon the brain by the effused fluid, and in which there is an absence of pain, excepting upon raising or moving the head; convulsions; a permanent dilatation of the pupil; squinting; blindness; slow intermitting pulse; hemiplegia; and a peculiarly placid expression of the countenance. And the third is made up of some of these, with other ulterior symptoms which accompany and follow the vascular reaction.

With respect, however, to the division thus formed of this disease, it is, I think, somewhat questionable, whether it be pathologically correct; for strictly speaking, the true disease is comprised between the incipient developement of the inflammation, and its termination by the effusion; since the symptoms which follow, and compose what are

called the second and third stages, are little more than the consequences of the disease, and arise from the mechanical pressure of the water upon the brain. The progress, therefore, of what may be strictly considered the disease, should perhaps be considered as terminating with the occurrence of the effusion, which is often remedial of the excitement causing it; and the whole disorder to be thus made up of two distinct states, the first consisting of symptoms, which, commencing with the excitement, terminate with the serous discharge; whilst the second is composed of those of a secondary kind, and which are wholly dependent for their origin and continuance on a mechanical pressure and irritation from the effused fluid.

This disease may occur either as an idiopathic or a symptomatic affection.

As an idiopathic disease, it may have for its remote cause,

1. Various injuries inflicted on the head by slight blows, which, in those constitutionally predisposed, will often be sufficient to produce that particular increased action in the serous membrane which occasions an effusion of water. In some of these cases, I have known the blow received upon the head to be attended with no inconvenience after the first few minutes of pain succeeding it, and yet be followed in a few days by a sudden accession of inflammation, which ended in less than forty-eight hours in the serous effusion and death.

2. All the general causes likewise of inflammation will, in those predisposed to it, produce the same results. The particular effects of such general causes from cold, will commonly be limited to the serous tissues of the brain, in the cases where they are affected. Sometimes, however, in the severer forms of the disease, the brain is affected in common with the serous and cellular tissues of other parts of the body; and I have thus seen it occur under a general anasarca, or, where one or more of the other cavities were simultaneously affected with the same increased action. Under the same head of causes producing inflammation within the head, or a general excitement of the system, leading to this local one, we may refer the suddenly drying up of long established discharges, as of issues; and the sudden repulsion of an eruption from the skin; or the imperfect evolution of that, or other sanative actions of the system, at the close of some febrile diseases, and very pertinently denominated defect of crisis. In all these cases, as well as in various others, in which some required and disburthening evacuation from the system is prevented, the serous effusion is to be considered as vicarious, and would prove remedial, if, instead of being poured into the ventricles, it were discharged into the cellular tissues of the body.

When these causes are acting in the system, there is, frequently, a considerable apparent struggle between them and the sanative powers of the body; and the morbid action, therefore, which gives rise

to the effusion, frequently does not take place, as from scarlatina, until a considerable time after the febrile disorder has disappeared. The disease is, therefore, when arising from this cause, exceedingly variable in respect to the period occupied in its approach and progress. Hence, of some children it is observed, that after struggling during some weeks under an imperfect convalescence from some of the eruptive febrile complaints, they are at length overtaken with this disease; whilst others are as suddenly attacked by it in the first week of their supposed recovery. In all these cases, the nature of the action, as well as its results, are the same; and appears to consist in a turgescent or congestive state of the cerebral vessels, that leads to that slight reaction of the exhalant extremities of the arterial system, which causes the effusion.

When, in these instances, the action which occasions the serous discharge commences in the cellular tissue, producing anasarca, the system becomes relieved by it; and there is, therefore, the utmost advantage to be derived, as will hereafter be noticed, from promoting an artificial drain from the system, by means of an issue, or by blisters.

The symptoms which denote the state of the system, indicating the approach of the cerebral disease, resemble nearly all those which are to be presently noticed as arising from a disturbance in the digestive organs, and which so frequently produce the hydropic effusion into the brain. The most marked of these are a dull and somewhat

sullen expression of countenance — slight unsteadiness in walking — a peevish irascible manner — alternate flushings and paleness — complaints of slight giddiness, of nausea, and of a mistiness of vision, and of a constrictive pain about some part of the head, most usually the forehead, increased by a strong light or noise, and by any sudden movement of the body — watchfulness, or the contrary state, with only a partial occlusion of the eyelid during sleep — costiveness, and a variable appetite.

Analogous to this state of the brain, as affecting young persons, is that chronic congestion of the venous system of the head, occurring in persons of a particular habit, and when past the middle period of life; and which may either terminate by a rupture of the congestive vessels, producing the sanguineous apoplexy, or by a reaction in the serous tissue of the exhalant extremities of the arteries, and which is resolved by a watery effusion.

The state of somnolency, and even torpor, in which some aged persons will temporarily lie, is generally from this particular condition of the brain, and which may terminate, as has just been observed, in some cases by the rupture of a vessel, by which an effusion of blood will take place upon the brain; or, secondly, in others, by such a reaction of the exhalant extremities of the arterial system, as shall occasion an effusion of water into the ventricles; or thirdly, there shall arise only such a subdued degree of this reaction, as *shall*

prove remedial of the venous congestion, without producing an effusion, and, in these cases, recoveries will take place; whilst, lastly, in others, the same beneficial result may occur, from means being successfully directed to the primary congestive state.

As illustrative of the nature of this form of disease within the head, and of the efficiency of simple means to remove it, I may notice the case of an old gentleman, to whom, some years ago, I was called one morning early. His servants, who slept in a room above him, had been alarmed in the night by the unusual loudness of his breathing, and having descended to his room, discovered him in a state of absolute stupor. At my visit I found him insensible to every stimulus, lying with his lower jaw fallen, and apparently dying under the symptoms of oppressed brain; and so confidently was this opinion entertained by the family, that a strong objection was made by them to my ordering the means which I thought necessary for his relief. Means, however, were used; and they consisted of a blister to the crown of the head, mustard sinapisms to the feet, and an active enema. After six hours, and when these remedies had taken effect, he became sensible; in the evening he sate up in bed to take his tea, and two days afterwards was walking unassisted on the pavement before his house, and died some few years after of another complaint.

When the disease is symptomatic, it may arise

from a particular cause seated within the head, or from some local and distant one. A symptomatic dropsy of the brain, from a disease seated within it, is not a very usual form of it with children, in whom the complaint is most common. When it occurs, it is from some chronic disease forming or existing there, as a tumour, or a thickened state of the arachnoid, or of the other membranous coverings of the brain, as results of former inflammations; and eventually giving rise to the proper inflammation of the membranes within the ventricles of the brain, and which, with the effusion ensuing from it, are only incidental effects of another disease, and wholly dependent upon it.

In the severer forms of the disease affecting adults, and particularly in those arising from a structural disease of the arachnoid, or other membranes, I have seen the disease run its course with the rapidity and intensity of the water-stroke of the German writers. In some of these cases, whose fatal issue I have been called to witness, it has been evident, from the history given of them, that the patients had been labouring many months under a chronic inflammation of the investing membranes of the brain, and where the inflammation, with its consequent effusion, at length supervened as an incidental effect of it.

Sometimes adult patients wholly recover from the chronic or sub-acute inflammation, which induced the structural disease, and then this last becomes, at some future period, the occasional cause

of the hydropic one. In a case of this kind, which I saw lately, the gentleman, a dissenting minister about thirty years of age, had been attacked a twelvemonth before with a sub-acute inflammation of the membranes of the brain, from which he recovered, so as to resume his clerical duties; and was considered by his friends to be in good health, with the exception of a headach, and some numbness in his arm, of which he occasionally spoke. On a Saturday he complained of his head, and of being otherwise unwell; on the following morning, whilst in bed, he was seized with an epileptic convulsion: through that day and to the end of the third one, when he expired, he was seldom free from them; and before his death he was wholly blind and paralysed. On opening the head, the arachnoid membrane was thickened, and its transparency in several places destroyed; and there were several diaphanous adhesions between it and the dura mater, which were the consequences of the former inflammation. Four ounces of water were collected in the ventricles; but no other vestige of recent inflammation was discoverable in them, and the texture of the brain was natural.

The most usual cause of the disease, however, particularly in children, is an irritation which is sympathetically communicated to the brain, from a disturbance in the chylopoietic organs; and particularly from a functional disorder of the liver. The cerebral disorder, to which a derangement in the digestive functions thus gives rise, is only one

of those numerous effects which arise out of sympathies subsisting between these organs and different parts of the system. In many cases the same sympathetic irritation is successively and variously directed to different parts of the system. It will thus leave one organ or part, and suddenly move to another; and through the operation of causes which are not always obvious, but which have a relation to some particular predisposition inherent or acquired. In this way, an irritation may occasion an eruption upon the skin, and thence be translated to the bronchial lining, producing a cough; and next, perhaps, to the serous tissue of the brain, exciting there a turgescent or congestive state of the cerebral vessels, by which symptoms are produced, through the pressure of the congestive vessels, that simulate those of hydrocephalus; or the true disease is brought on by an arterial reaction ensuing upon the congestion, which is resolved by a serous effusion.

And here let it be observed, that the symptoms, which arise out of the disturbance in the digestive organs, just noticed, are naturally divisible into two classes. One of these belong essentially to the complaint, for the symptoms of it are those which are constantly present in it; whilst the other class is composed of symptoms which are secondary in respect to them, and are only of incidental occurrence. The symptoms of the first class, are principally the following: — A morbidly craving desire for food, which, after continuing an

indefinite period, is succeeded by a loathing of it, and with a feeling of faintness at the stomach under both these conditions of the appetite; with nightly returns of fever, and starting during sleep; the tongue furred, and dry on waking; a nauseous odour of the breath; listlessness and fretfulness, and a disinclination to take exercise, and a marked unaptness for study; drowsiness; chilliness, and coldness of the feet; an aching in the knees; diminution of the flesh and strength; costiveness, or the contrary state; a yeasty-coloured, or highly dark and morbid, condition of the stools, which are intermixed with slime; sallowness of the complexion; a harsh and dry state of the skin and hair, with a proneness to perspire under very slight exercise. The symptoms of the second class are made up of these, and of various others, which are more peculiarly sympathetic, and which, under the influence of a scrophulous diathesis, or other disordered habit of the system, may become themselves diseases, and even survive the morbid and distant irritation which produced them.

From observing the marked connection thus seen to subsist between this turgescent state of the brain, from chylopoietic disturbance, and an inflammation in its serous tissue, Dr. Golis has concluded that it essentially pertains to it, and, therefore, whenever it occurs, that it is a part of it; and he has thus considered it as forming the first stage of the disease, and preceding in all cases the excite-

ment; and has accordingly enumerated, with their supposed diagnostic distinctions, all those very various and dissimilar symptoms, so multitudinous in their number, which belong to chylopoietic derangement, as denoting the approach, or the presence, of the cerebral disease. That the turgescent state, however, of the vessels of the brain, produced sympathetically by a derangement in the digestive function, is not essentially a part of the disease constituting dropsy of the brain, may be concluded from the fact, that this turgescent state of the brain, even to the simulating nearly all, if not all, the falsely assumed pathognomonic signs of the disease, is of frequent occurrence, and of comparatively easy removal, by means that are exclusively directed to the distant sympathetic cause. By such, indeed, of my experienced professional readers, who shall honour these pages with perusal, numerous examples will doubtless be remembered of cases, in which they apprehended that effusion had taken place; and only discovered by the result that they had been mistaken. To myself many such have occurred. In several, I have seen or heard of the disease advancing, from the milder state of cerebral irritation, to *apparently* that of inflammation and effusion, and yielding rapidly and fully to those means, which were alone directed to the disordered condition of the digestive organs. Even paralysis, which may be thought to indicate most strongly the existence of effusion, may originate from a congestive state of the vessels,

independently of any permanent pressure, and which may either remain after, or disappear with the other symptoms.

An example of this kind, strongly illustrative of this particular fact, fell under my notice some years ago in a child, whom I attended in the acute form of biliary disturbance, and who, when an infant, had been convulsed, as it was thought, from dentition, and whose mouth in consequence had afterwards continued distorted. In the course of the illness in which I attended the child, there were several of the usual symptoms threatening an effusion of water in the head; and during the several days these symptoms continued, the distortion entirely disappeared; which showed, that the contrary side of the brain had become affected, and that a temporary paralysis had been induced in the muscles antagonists to those already paralysed, and that thus the distortion had become relieved. On the patient recovering, the original deformity returned. In some cases I have known blindness to prevail for several days; and in two instances the blindness, after being suddenly removed, was renewed a second time during the same attack, from some irregularity in the diet. There is, indeed, as I have shown in a work relating to this subject*, no single symptom met with in the true disease, which is not sometimes found in the simulated one;

* Practical Observations on those Disorders of the Liver and other digestive Organs, which produce what are denominated Bilious Complaints. Second Edition. 1824.

and the difficulty is not merely considerable, but often insurmountable, in determining at once concerning them; and it is frequently, indeed, only by the result, that an opinion of their true nature can be formed. The simulated cases depend upon a pressure made upon the brain, by the turgescent state of the cerebral vessels; and to constitute the true disease of dropsy of the brain, there is only wanting that arterial reaction which would cause the fluid to be effused.

The cerebral turgescence and disturbance, therefore, in whatever degree they may exist, are only, when sympathetically produced, to be considered as morbid causes, whose presence, where the predisposition prevails, may lead to an inflammation of the tissues of the brain, but which do not form, in any sense, parts of the disease itself; since, under every degree of them, they are so frequently remediable by means which are alone available for the removal of their distant and sympatethic cause. Nor is the distinction here pointed out of little practical importance; for the treatment suited to a turgescent state of the brain of an idiopathic kind, and, therefore, independent of any distant cause, must necessarily differ from that which is strictly symptomatic of chylopoietic disturbance. In the one case, the attention must be exclusively given to the turgescent state of the cerebral vessels, as constituting an integral part of the disease; whilst, in the other, it must be directed principally to the disturbed condition of the digestive organs, and

only subordinately to the head; as it is only by correcting the disorder in the digestive functions that the congestive state of the brain, as occurring in this latter case, can be permanently removed.

Section II.

HYDROTHORAX, OR WATER IN THE CHEST.

This disease, as its name imports, and as defined by nosologists, consists of symptoms, which, strictly speaking, pertain only remotely to the true disease. By the pressure of the water upon the vital organs contained in the chest, a certain disturbance is given to their action, from which these symptoms arise. These are, a sense of oppression at the lower part of the sternum; an habitual difficulty in respiration, increased by all those circumstances which call for full and frequent inspirations, as ascending a height, &c.; a cough which is either dry, or attended with a slight mucous expectoration; a difficulty in lying down in the recumbent posture, more or less considerable, and always disproportioned in severity to the other pectoral symptoms, and occasioning, when attempting it, a threatening of suffocation, and an aggravation of the cough; sudden startings from sleep; and intermitting or irregular pulse; thirst; scanty urine; œdema of the extremities. None of these symptoms, singly,

are pathognomonic of the effusion; but they are so when taken collectively, and particularly so when considered in connection with the previous history. They are, however, only symptoms of the effusion; and as the excitement sometimes terminates with the occurrence of the serous discharge, the existence of the excitement is only, in many cases, discoverable to have existed by its effects; for there are no signs which clearly point out the presence of that state previous to the appearance of the effusion. Writers on the subject, indeed, have spoken of precursory or premonitory symptoms; but what they describe as such are nothing more than those arising from an inferior degree of the effusion, which has already commenced; and are, of course, only a milder form of those symptoms which have just been enumerated. They are, however, important in a practical point of view; for by recognising them early, we are enabled the earlier to combat with the disease.

Like the disease of hydrocephalus internus, just noticed, hydrothorax may be either idiopathic or symptomatic, and proceed from a local or a general cause. The nature of the inflammation is the same in both; and there is, therefore, a chronic state, and another form, which, relatively to that, may be termed sub-acute. The cases of this disease which are symptomatic, and from a local cause, are generally in the chronic form. There is no pretence for dividing this disease into stages, as is done in hydrocephalus internus; for the

symptoms, as has been just observed, which precede the effusion, are too obscure to be recognised; yet the morbid actions immediately exciting the watery discharge, or, in other words, the proximate cause of both is the same. In the case of the brain, practitioners are disposed to regard its disease as irremediable upon the occurrence of the effusion, and consider, very justly, the period of excitement, or of turgescence preceding it, to be those in which the assistance of our art can be alone rendered available. But there is in hydrothorax a similar degree of inflammation; and our means, to be made useful, should be employed in this, as in the other disease, equally with the view of removing or preventing the excitement. The mode by which this state is induced in the serous membranes, is by the chronic inflammation that exists in the diseased organ extending to them; and not by the same form of inflammation being set up in them, by a certain sympathy or consent of parts, which, from a loose analogy, has been thought to subsist between similar structures.

The particular diseases within the chest, as tending to produce a serous effusion into it, will necessarily differ greatly in regard to such tendency; and there are, therefore, many derangements of structure within it, of which the danger is chiefly to be estimated by their acting as remote causes of such effusion. In many of these cases, indeed, the danger from the organic disease is inconsiderable, excepting as it may prove the cause

of this secondary complaint; whilst, in other cases, if it occur at all, the effusion is merely the sequel of a disease essentially fatal. To distinguish between these two conditions is a desideratum in pathology. Modern writers on pathological anatomy have prosecuted, with considerable zeal and ability, their researches into the nature of the diseases of the organs within the chest, but they have done but little towards elucidating the true relation, which subsists between the diseases of the several viscera, and the serous effusions which take place into their cavities; for, by limiting their views to the disease which the *post-mortem* examination exhibited, they have overlooked those intermediate actions or states of excitement, which connect the organic disease with such effusions. Hence, where a palpable disease of the heart is found, as an ossification of its valves, by which its functions are disturbed, it is usual to consider such disease as acting in a mechanical manner in producing the effusion; and as there are no means available for the removal of such a cause, so, it is thought, there are no means available for the prevention of the effusion, which is supposed to be its natural and inevitable effect. Such cases, which are much the most numerous of those by which hydrothorax is produced, are, therefore, generally abandoned as incurable. The means, however, which are sometimes used, and that successfully, for the removal of the water, have now and then the effect, at the same time, of removing the

chronic excitement producing the effusion of it; and radical cures of this disease are occasionally and unexpectedly occurring, under a plan of treatment which is thought to be exclusively suited, as it is confessedly directed, to the removal alone of the water. It was, indeed, by the occurrence of unexpected results of this kind, in some cases of this disease, and where the object of the treatment was merely to carry off the water, that my attention, several years ago, became more particularly called to a consideration of their nature; and by employing those means hereafter to be noticed, I succeeded in curing cases of the disease to which the ordinary treatment, pursued on such occasions, had before proved unequal.

When the excitement producing dropsy within the chest, is independent in its origin of any organic disease existing there, its remote causes may be either of a general, or of a local kind, and are the same which produce, when applied in a higher degree, or under different states of the system, the other forms of inflammation. When, therefore, inflammation takes place in the chest, it may, according to the degrees of it, produce different results; and these may be either pus or coagulable lymph, or a serous effusion, or a mixture of these. If the inflammation be high, and means be employed late, or in an insufficient degree, for subduing it, a lower or chronic form of the inflammation may be left behind, which may produce a watery effusion; or some structural dis-

ease remains as an effect of the higher excitement, and which eventually becomes a cause of it. The occurrence of this result, in either of these modes, is sometimes attributed to a debility arising from the large depletion of blood-letting, which the severity of the previous inflammation had required, — an opinion that is well calculated to paralyse the hand of the timid and inexperienced practitioner, and to ruin the reputation of the judiciously bold one.

That such opinions, however, are founded in error, may be shown from this, that the effusion, thus imputed to debility, frequently does not occur until some weeks or months after the period when the bleeding was employed; and although the debility is confessedly of a general kind, yet the effusion is local, and is precisely in the very cavity where the disease existed, which required the unjustly condemned evacuations. The truth of the matter is, that in such cases, either the depletory means have been employed in an inefficient degree, or too late; or sufficient care has not been given during the convalescent state, to avoid the several causes which tend to keep up, or increase the force of, the local or general circulation. A lower grade of inflammation, therefore, is left behind in the chest, by which it may, according to the tissue it is seated in, either become an immediate cause of effusion, or induce a structural disease in some part, which eventually serves as a point, whence the inflammation may commence that causes it.

The imperfect recovery of such patients from their first attack, and which is attributed to the depletion, arises from the disease which is left by it, and to the injudicious means, perhaps, that are employed by the too anxious attendants, with the view of restoring the strength. In such patients, there may be often traced a permanent difficulty in the breathing whilst at rest, or an obstruction to the full and free expansion of the chest, upon a trial made for that purpose, which is irreconcilable with the assumed cause of debility; though in other cases, from the obscure nature of the symptoms, or the little inconvenience sustained from the chronic disease, the effusion into the chest will at length occur without any indications of its approach.

As connected, in some degree, with this part of our subject, it may here be noticed, that scarlet fever frequently serves as a remote cause of this disease, and in a mode not fully understood; for its occurrence is not regulated by any observable circumstances peculiar to the previous complaint. It appears, in many cases, to occur as a terminating or critical issue of the disorder, analogous to those pustular eruptions, which often break out at the close of other acute diseases; or, perhaps, rather as the morbid substitute of some sanative action of the system, the office of which is to put a finish to the complaint, by an unseen but salutary evacuation from some one of the emunctories of the body. When hydrothorax arises after scarlet

fever, it is usually preceded by some slight œdema about the neck or chest, and is frequently accompanied by the most decided marks of vascular excitement. The urine, in these cases, is often of a brown hue, and loaded with serum; and the course of the disease is sometimes so rapid, as to prove fatal as early as the second day after its appearance.

Beside the ordinary predisposing or exciting causes of inflammation, as cold, &c., which produce this disease, there is one which has a much more important influence in producing, or predisposing to it, than is generally supposed; namely, a certain congestive or plethoric state of the circulation, which is brought on in some persons of particular habits, by indulging in the pleasures of the table, and taking little exercise. Thus, in many such persons, when past the middle period of life, there is a tendency to a plethoric fulness of the venous system, with a disposition, under this state of it, to local congestions in some particular part. In some, as noticed in the last section, it is found to be in the head, producing the sanguineous apoplexy, by a rupture of the vessels; or the serous one, by an arterial reaction, leading to a serous effusion. In others the congestive fulness prevails chiefly in the chest, tending, as in the head, to an arterial reaction. In this state, any slight additional increase in the force of the general circulation, or any cause, such as obstructed perspiration, &c., disturbing farther the balance between

the two systems of vessels, may occasion such a particular excitement in the serous tissues of the chest, as to produce the serous effusion. The difficulty of breathing under exercise, and the short irritating cough, mark the presence of such tendency; especially when coupled with the full relief which one or two copious bleedings, and a spare diet, will give to these symptoms. The several articles of food or drink indulged in by these persons, are enumerated by some writers, as occasional causes of chronic congestions; but there is not, in any single one, any distinct tendency to produce it, independently of that general power, which the whole conjointly possess, of producing a plethoric and excited state of the system; and thereby of predisposing it to be acted on by all the occasional causes of inflammation.

Section III.

ASCITES, OR WATER IN THE ABDOMEN.

The symptoms which attend the effusion of water into the abdomen, are exceedingly obscure, and its presence can rarely be detected, until collected in such quantity as to admit of its fluctuation being felt. This arises, partly, from the slight symptoms which pertain to it, being overlooked among the severer ones of its remote cause; and, partly, from

the natural insensibility of the peritoneal membrane, under a low state of inflammation; and from no inconvenience besides being sustained by a moderate pressure of the water upon the viscera. Abstractedly from its cause, the watery accumulation is of little importance; and in this respect it differs from the two affections just noticed, in which the effused fluid, from whatever cause arising, constitutes an important feature of the disease. It is, therefore, peculiarly in respect to the remote cause of this discharge, and not to the discharge itself, that the attention of the practitioner must be chiefly engaged.

The remote cause may be either symptomatic or idiopathic, and either local or general.

When symptomatic, the cause will be seated in some diseased viscus, and generally in the liver or spleen, or mesenteric glands, though any of the other viscera becoming diseased, may become a remote cause of this affection. To produce, however, a dropsical effusion into the abdomen from this cause, it is necessary that the disease of the viscus should be making progress; for in its indolent state, or, in other words, if inflammation be not present in it, it is incapable from its mere bulk, as is commonly but erroneously supposed, of producing this effect. Hence, as I have often witnessed, the liver may continue for several years exceedingly enlarged, so as visibly to distend the abdomen, and yet without giving rise to any serous effusion; until, perhaps, by some accidental cause

acting on that viscus, and producing inflammation in it, an effusion of water at length takes place. And this happens still more frequently with the spleen, which is often greatly enlarged in patients who have long laboured under intermittents; but which, becoming indolent with the removal of its cause, may continue for many years in that state, with little or no disturbance of the healthy condition of the parts surrounding it. The same is likewise true of the disease of the mesenteric glands, which only prove a cause of the watery effusion, by the continuance of their inflammatory state.

Nor does the serous discharge always take place into the abdomen, in every case where these organs are morbidly affected, but only where their peritoneal covering participates in their disease; for the chronic inflammation in those cases, where it occasions ascites, does so by extending from the cellular tissue of the internal structure of the organ, to the serous tissue investing it; and from thence, as from a point, it spreads with varying degrees of rapidity through the whole of the peritoneal investiture. The morbid excitement, when once established in the peritoneal membrane, continues essentially connected with its primary cause; and the gradual increase of the disease within the organ, is followed by a correspondent increase in the intensity or extent of the inflammation in the peritoneal surface. The rapidity of the accumulation will be governed, therefore, by the intensity or

extent of this excitement. Prior to the first tapping, in cases of ascites, the accumulation of the water proceeds much more gradually than subsequently; for by the tapping, a cause of farther or more extended inflammation is generally superadded to the original one. After each successive discharge by tapping, therefore, the water is commonly renewed more quickly, and on one of these occasions, perhaps, a sub-acute or chronic inflammation is induced in some part of the peritoneum, by which a farther disease of that membrane is occasioned; and at length, either by the increase of this superadded disease, or as an effect of some succeeding operation, a still higher degree of inflammation comes on, which may prove destructive of life.

In some instances the chronic inflammation of the liver or spleen will be extended to the peritoneal surface, so that an effusion into the abdomen shall ensue without any decided symptoms of visceral disease; and the action of the viscus, and of its peritoneal covering, will be subdued, and the fluid effused be removed by art, with a show of entire recovery. In a few months, however, in several of these cases where the remedial means, or regimen for repressing inflammatory action, are remitted, the chronic action in the diseased organ is resumed; but, instead of its extending to the surface as before, it is limited to the interstitial tissue of the viscus, which thus becomes gradually and greatly enlarged, and without a renewal of the effusion, or any material dis-

turbance of the general health. At the moment in which these pages are going to the press, a case of this description has again come under my notice. A young lady applied to me eighteen months since labouring under a dropsy of the body, which had become greatly distended, with an anasarca of the lower extremities. After being under treatment a month, the dropsy wholly disappeared, and she returned into the country recovered, but with an injunction to see me again in a week or two. This she neglected to do; believing herself to be quite well, and requiring no farther aid. In a few months her body began to enlarge again, and, after some time, she consulted a practitioner in a neighbouring town upon her case. A hard and unyielding swelling was found to be distending, in a very considerable degree, the abdomen; and so impressed was the gentleman whom she consulted with the appearance of her state, that he wholly discredited her assertion that she had been as large the preceding year, and had been wholly reduced to her natural condition by medicine. She is now nearly of the size she was when I first saw her; but instead of water there is the considerable and hard tumour, which occupies the whole of the abdomen, and with only a very doubtful indication of effusion, as discoverable by the sense of fluctuation.

In other instances, where there is considerable disease of the liver, the water of the first accumulation may be absorbed and carried out of the body, and

the patient may thus undergo a cure as it respects the effusion; but the inflammation, which caused the discharge, has only, in this case, yielded to one of a higher grade, which may arise, either, from the peritoneal membrane participating in the increase of disease in the affected viscus, or, by there accidentally supervening upon the secondary one a farther cause of inflammation. In these instances, as well as in those in which a higher inflammation succeeds the operation of tapping, coagulable lymph is poured out, by which the peritoneal surfaces, which were formerly the seat of the inflammation and effusion, are perhaps agglutinated together; and a fresh and more formidable disease is thus superinduced upon, or superadded to, the former one. Patients will sometimes survive this state for a year or two, and without any return of the dropsy. In the worst of these cases, and where death ensues, pus is discharged from some points of the inflamed surface, and which, by mixing with the lymph and serum that are poured out at other parts, forms an apparently homogeneous fluid of a milky colour, which, in puerperal and other cases of abdominal inflammation, has been strangely believed by some to be *chylous;* and, by others, an *effusion* of the *milk* by a metastasis.

When ascites is an idiopathic affection, it may proceed from all the common causes of inflammation. The most frequent one is cold, and which may act either locally or generally. When in the latter mode, the ascites is usually combined with anasarca,

and the disorder generally comes on suddenly, and has a rapid progress. The vascular system is excited, and there is more than usual thirst; the blood when drawn exhibits the buffy appearance; and the urine, when subjected to heat, is found to coagulate strongly from the large quantity of serum contained in it. In some of the severer cases, the effusion into the abdomen takes place very suddenly, and yet by a copious bleeding, the disease may be at once arrested, and the water be afterwards absorbed. The subjects of this form of dropsy are commonly robust labouring men, whose employment carries them amongst water; and stout full-habited females, when they chance to take cold at a particular period. I have known the same to happen combined with anasarca, from exposure to cold under the active operation of a purgative; though any of the ordinary causes of inflammation, as a suddenly suppressed discharge from hemorrhoids, &c., acting on habits whose state of plethora predisdisposes them to it, will be sufficient to produce it.

It has been just remarked, that, abstractedly from its causes, the watery accumulation is unimportant. This, however, must be understood of it only when the quantity is inconsiderable; for it may become, by the effect it occasions on the peritoneal membrane, a source of farther disease. And this will be by the mechanical irritation it gives by its pressure to the organs and integuments of the abdomen, through the operation of that provident law of the animal economy, by which the

tendency to an inflammation, called by some ulcerative, is produced in parts, from a stimulus imparted to them by the presence of some noxious agent, and of which the final cause is the expulsion of such irritant from them.

Of the power which the pressure of the distending fluid has upon the parts surrounding it, we have a familiar instance in the entire absorption of the fat from the parietes of the abdomen, in those labouring under ascites. And that the organs themselves do not escape from an injury inflicted by a compressing fluid, I have repeatedly witnessed. In one case which I saw of hydrothorax in a boy, who laboured under this disease during several months, and where the effusion was confined to the right side of the chest, the pressure of the effusing fluid had been so considerable, and so long kept up, as to cause the entire destruction and absorption of the right lung; so that the whole that was found remaining of it, was a small portion of membrane loosely attached to the upper part of the chest, and floating in the surrounding fluid.

The injury sustained from distension will generally be first experienced in the peritoneal membrane of the abdomen. If the pressure of the water, from the patient's position, or other causes, be made considerably upon the diaphragm, a low degree of the inflammation may arise there; and by being communicated to the membrane lining the chest, may give rise to an effusion of water into it; whilst by the irritation communicated to the

peritoneum by the distending fluid, the inflammation of it already existing will be increased or more widely extended; and according as this irritation is prolonged, the risk will be incurred of inducing a higher form of inflammation. If tapping be resorted to under these circumstances, there will arise the danger of such a destructive degree of inflammation as may occasion the patient's death; and the unfavourable termination of the case will be here attributable, not to the original disease, but to one that is thus incidentally superinduced upon it.

Section IV.

OVARIAN DROPSY.

This disease arises from a chronic inflammation, usually commencing first in the substance of the ovarium, and thence extending to the serous tissue investing it. The symptoms which are premonitory of the dropsical affection, and arise from the morbid action going on in the ovarium, are necessarily various with respect both to their nature and duration; because any disease seated in that organ, whether of the character of scirrhus, or of any other chronic disease, is capable, by an extension of its proper inflammation, to produce that particular degree of excitement in its serous tissue

which leads to a watery effusion. The progress of the disease in the ovarium will necessarily vary under different circumstances; and there will be a greater tendency in some, than in other forms of its disease, to produce this particular result. In some cases, the diseased ovarium may fall into an indolent state; or its serous tissue may not become involved in its disease; or, if involved in it, the inflammation of it may be of the sub-acute or adhesive form, by which it may become indissolubly united to and blended with the ovarium, and its serous character be thus destroyed. Hence it sometimes happens, that a great sense of uneasiness may be complained of in the iliac region, and even the enlarged ovarium may be felt like a ball under the hand, when placed upon the side of the abdomen, and yet without ever being followed by a dropsical effect; whilst, in another case, the irritation shall appear to be inconsiderable, and even to be wholly uterine, and be followed, nevertheless, after some months, by this effect. When the morbid action is established, which occasions the effusion of water, its progress is generally slow, and frequently becomes stationary for a time, and then resumes its course, until at length it stops. The fluid thus effused, whether in small or in large quantity, will often be retained in its sac for several years, and without any inconvenience, excepting from its bulk, and with no apparent injury to the health. Slight causes, however, are sufficient to renew the original inflam-

mation of the ovarium, or the secondary one of the serous tissue investing it, and which now forms the sac of the accumulated fluid; and by the renewal of the inflammation, in either of these structures, a return of the effusion will ensue. Hence, after an accumulation of this kind has remained in a stationary or quiescent state for some years, it suddenly increases, so as to render tapping necessary. By this operation a fresh cause of morbid excitement is afforded to the internal surface of the sac, and, perhaps, to the primary disease of the ovarium itself; and the cavity is now refilled in a comparatively short period. From this time, each successive operation renews this irritation, and renders a more frequent return of the operation necessary; until at length, by these repeated renewals of the morbid excitement, a state of disease is induced within the sac, analogous to what occurs after abdominal tapping, and which leads, at length, to a degree of inflammation destructive of life.

The remote causes of the different forms of ovarian disease are exceedingly obscure. Blows, or other injuries received on the iliac region, are sufficient to produce inflammation in this organ; and where the predisposition to it exists, the inflammation, in whatever way induced, may cause the developement in it of scirrhus, or of some other form of chronic disease. The age at which menstruation ceases, from the uterine irritation prevailing at this period, seems favourable to its oc-

currence; and it is, therefore, more commonly found at this period than at any other, though I have met with it at every age, commencing from that of puberty to several years beyond the time at which this function ceases. At its early stage, this disease is distinguished from the two latter forms of dropsy just noticed, in not occasioning any of that general excitement of the system, which consists, as denoted by the serous character of the urine, of a disposition in the cellular tissue of the body to take on that action by which the serous fluid is discharged into it. There is, therefore, no thirst, nor dryness of the skin, nor other indication of considerable disturbance in the excretory functions, so observable in the common forms of the disease. The ovarian dropsy is, therefore, a purely local affection, and is an example of that form of it which is called encysted, and which may occur in every part or organ of the body that contains in it a cellular tissue, or a serous envelope.

Section V.

ANASARCA, OR DROPSY IN THE SKIN.

This disease consists in an inflammation of the cellular tissue of the body, with a serous effusion as its result. The fluid accumulation may be either general or local, and arise from causes either idio-

pathic or symptomatic, and either general or peculiar. It occurs under two forms, one being of greater intensity than the other. The disease derives all its importance from the nature of its remote causes. Where it is idiopathic, and proceeding from cold, it is usually unimportant; for though the progress of the swelling be rapid, and the appearance of the disease formidable, yet it readily subsides under proper treatment, as the effusion proves in these cases, either partially or fully corrective of its cause; and little more, under such circumstances, is required in its treatment than to promote the absorption of the water. In some cases of general anasarca, however, the disease is more severe; for sometimes the action of the heart and arteries is increased, the urine becomes loaded with serum, and there is thirst and other indications of general vascular excitement, similar to the state which was noticed, as producing effusion into the brain, or the other cavities of the body. By its occurrence under an idiopathic form, it serves the important end of obviating the effusions into these parts, as it proves a remedy to that general cause which, according to the tendencies of particular parts to inflammation, may produce this effect in them. Hence a general anasarca of the cellular tissue of the body coming on from cold, or after scarlatina, or where it is vicarious of some required evacuation, is seldom succeeded by a discharge into these cavities; and on the same principle, where any one of these, and particularly

the larger ones, are the primary seat of the effusion, the œdema, which succeeds this effect, is commonly inconsiderable.

In some cases of this form of dropsy, the fluid effused into the cellular tissue is of a highly viscid or gelatinous quality, so as to cause much resistance to the finger compressing the parts. It is a form of the disease most commonly local, and is often met with in the lower extremities of the aged. It arises from cold locally applied, and sometimes it occurs as a critical action on the decline of fevers; many examples of which fell under my notice in the epidemic which prevailed in 1816–17. It is attended with much uneasiness in the parts; and in its sensible appearances it bears a strong resemblance to the phlegmasia dolens, or white leg of the puerperal state, to which I am inclined to believe it is closely allied.

The common œdema of the legs and feet are not unfrequent effects of cold applied in the same local way. There is generally a remission of the pain on the occurrence of the swelling. The degree, however, in which the pain shall abate, will depend upon the degree in which the effusion shall effect the removal of its cause.

Sometimes, as I have already had occasion to notice, the serous effusion of one part appears to be translated to another. The translation, however, in these cases, is not of the serous fluid, but only of the inflammation yielding the fluid. This transference of the morbid action, is usually to some

other part of the cellular tissue; but sometimes it is to the serous membrane of the brain, or to the cavities of the chest or abdomen.

An œdematous state of the feet and ankles is often symptomatic of chylopoietic disturbance, and particularly in young women, in whom the menstrual function is obstructed. It usually commences with considerable pain and stiffness of the parts, and there is sometimes a considerable degree of hardness in the œdematous swellings, and stiffness of the joints, from the cellular tissue connected with the capsules and ligaments, having an effusion of a more viscid quality discharged into them. The œdematous swellings attendant on the inflammation of gout and rheumatism, and other local inflammations, are of this kind; and the serous effusion, undoubtedly, in those several cases reduces materially the inflammatory actions which constitute these diseases. Hence, on the occurrence of these swellings, the local heat and pain are diminished; whilst, at the same time, a measure of relief is sometimes afforded by it to the disturbed and excited state of the vascular system.

But the most common form of anasarca is that which is symptomatic of some visceral disease; and which, as it ordinarily appears, arises from a state of the system that answers to the hydropic diathesis of systematic writers. It generally begins in the lower extremities, but is rarely attended with those strong signs of local excitement so obvious in the anasarca of the idiopathic kind. Its occur-

rence towards the close of various chronic diseases of a fatal nature, has been referred to various causes. When combined with ascites it has been supposed to arise from pressure made by the water on the iliac veins, by which the returning blood is impeded in its course; but frequently in pregnancy the uterine pressure produces a considerable swelling of the crural veins, without any serous effusion resulting from it; and I have already had occasion to refer to an instance of permanent obstruction to the passage of the blood by the vena cava, which produced a much more considerable effect upon the main trunk of the veins proceeding from the lower extremities, than could possibly arise from ascites; and yet without any serous effusion being occasioned by it.

But here let me observe, that the denial of ascites producing an anasarcous state of the legs, from the water compressing the iliac veins, must not be understood as implying that a mechanical compression of a vein will not in other cases produce an effect of this kind. A pressure made on the brachial vein and its branches by schirrous glands in the axilla, is a common cause of this state. The remote cause is here, indeed, of a mechanical kind, but not so the proximate cause of the effusion. By the resistance given, in this case, to the blood's return by the principal veins of the limb, a reaction is occasioned in the extremities of the arteries leading into the corresponding extreme branches of the veins, and

which reaction is in this, as in a multitude of other occasions of congestive fulness in these vessels, a sanative effort of nature to overcome the primary obstruction.

In ordinary cases, therefore, of common idiopathic venous congestion, this arterial reaction succeeds in removing it. On other occasions, however, where the venous obstruction is of slow increase, but ultimately considerable in degree, the reaction which arises, occasions a gradual dilatation of the minor lateral branches of veins connected with the trunk below the obstructed part, and anastomosing with others that are above it, by which the circulation is perfectly, though circuitously, carried on. Where, again, an obstruction is considerable, and somewhat suddenly induced, as in the instance under consideration, the reaction which ensues is unequal to produce the required effect to obviate it, and the consequence is, that the vessels are excited to a degree which occasions their exhalant extremities to pour out a serous fluid, which, under other circumstances, as one of the products of increased action, would have served as a curative effect.

The anasarcous state of the lower limbs in chronic disease has also been referred to a local or a general debility, and this opinion of its nature is thought to be proved by the fact of its being increased by a depending position of the limb, and relieved by the horizontal one; — by the occurrence of an inflammatory state of the

parts being incompatible with such debility; and, lastly, by the want of a preternatural degree of heat on the surface of an œdematous part, and which, it is assumed, should prevail, where the least degree of morbid excitement is present. Upon which objections it may be observed, that the supposition of the general debility being the cause of the local one, and this last of a simple mechanical separation of the serous fluid, is invalidated by the fact, that the effects are in no correspondence with the assigned cause; for in a multitude of cases of both chronic and acute disease, the general debility, as well as the local one, as far, at least, as this last can be judged of, is often excessive, as in the last stage of fevers, and yet without being attended by any effusion; whilst, in other cases, the serous discharge is considerable, and the debility only slight. That with respect to a proof being afforded of such debility, by the anasarcous state occurring most considerably when the limb is in a dependent position, it may be observed, that this state of the limb will be produced in the strongest person when unduly subjected to this cause, and where the debility is immeasurably less than that which prevails in typhoid and other debilitated patients, in whom no such effusion is produced; and that, with respect to this and the other objections, it may be farther observed, that there is, it is well known, in certain fatal chronic diseases, a tendency in the lower limbs to take on a low inflammatory action, and often of the ery-

sipelatous kind; and that, therefore, the still lower degree of it, proper to anasarca, may be well imagined to prevail. And if, be it remarked, the depending position of the limb increases the effusion, and the horizontal one relieves it, it is only what is common to all the other forms of increased action, and which proceeds from the higher congestion of the vessels induced by such a position. The temporarily dependent state of the limb, in fact, may aggravate, but does not cause, as the horizontal one will relieve, but can neither prevent nor remove the inflammation of the part. And with respect to the temperature of the surface of œdematous parts not being preternaturally raised, the objection, if of any force, must apply to all, for all have this peculiarity, and yet some cases of œdema confessedly arise from inflammation; differing not, in this respect, from several other morbid states, as those, for instance, of chronic rheumatism, and which are indisputably, as indicated by the nature of their causes and remedies, of a truly inflammatory kind.

RECAPITULATION.

Before closing the view which has now been taken of the principal forms of this disease, I will briefly recapitulate the material points connected with their history and pathology: and, for this purpose shall begin by remarking, that there is a common resemblance observable among all the

forms of this disease, in regard to the nature of their proximate causes, but an important difference in respect to the nature of their remote causes, and of their symptoms, and of the relative importance of the effusion.

I. When the discharge takes place into the brain, it may occur, either as an incidental effect of that acute inflammation of the organ, which answers to the phrenitis of nosologists, and of which the proper morbid result is coagulable lymph; or under its ordinary and proper form of low inflammation, when, relatively to phrenitis, it will be in a sub-acute or chronic state, with the watery effusion as its natural product. It may be either idiopathic or symptomatic. When the former, it may be induced by a general state of the system, answering in its nature to the scrofulous diathesis, and favouring the developement of a local disease; and this state may be either that of direct excitement, or of a general constitutional irritation of a specific kind, derived from the suppression or obstruction of some required evacuation, and most commonly occasioning, particularly in the latter case, a precursory turgescence of the brain. When the disease is symptomatic, it may arise from some structural disease within the head; or, secondly, from some relative weakness of its venous system; or, thirdly, from a distant irritation in the digestive organs. When the attack of the disease proceeds from the first of these causes, it is usually severe, and answers in its symptoms to the

water stroke of the German writers. When from the second, the disease corresponds to the serous apoplexy of systematic writers; and, as it respects its approach, is usually chronic, though generally sudden in its termination, by the arterial reaction being rapidly, sometimes instantly, succeeded by the effusion. When it proceeds from the third cause, the turgescent state of the brain, which gives origin to symptoms that simulate these of the true disease, arises as a direct effect of chylopoietic disturbance, and is remediable, until arterial reaction commences, by means directed solely to its remote cause.

II. Hydrothorax may be either idiopathic, or symptomatic, and proceed from a local or general cause. When idiopathic, it may either arise from all the local or general causes of inflammation, and in this form exist independently of, or in combination with, some higher grade of local vascular excitement; or it may arise from a local congestive state of the vascular system within the chest, as an effect of a plethora of the general circulation; and in these several cases the effusion may prove more or less remedial of the local, and, sometimes of the general excitement. When symptomatic, it usually occurs under a chronic form, and from the chronic inflammatory action of the visceral disease, extending to the serous membranes of the chest. The occurrence of the dropsical effusion, when thus symptomatic, affords no standard by which to judge of the measure of danger belonging to the visceral

disease, independently of this its effect; whilst the effusion, when in considerable quantity, is essentially destructive of life, by interfering with functions that are necessary to it.

III. Abdominal dropsy proceeds nearly from the same causes as hydrothorax, and like it is most commonly symptomatic of some diseased viscus, by the chronic inflammation in the internal tissues of the diseased organ being propagated to its outer peritoneal covering, and thence through the cavity of the abdomen. The effusion is of inconsiderable importance compared with the visceral disease, which is its remote cause; until, from the risk incurred of farther disease from the stimulus of distension, a necessity arises for tapping, when this operation proves a farther cause, perhaps, of aggravating the disease of the affected viscus, and either of renewing or extending the hydropic excitement, or of converting it into a high or more destructive form of inflammation.

IV. Ovarian dropsy originates, in every instance, either from a chronic inflammation commencing in the inner surface of the serous membrane investing the ovary; or from a similar morbid state of the ovary itself, or of its interstitial tissue, and which, after continuing an indefinite period, extends, at length, to its serous envelope. The effusion which ensues upon the excitement is often corrective of it, until fresh causes be applied, that aggravate or renew the disease of the ovarium, or of its investing membrane. The inflammation thus renewed, may,

according to the form it assumes, either prove a cause of a fresh accumulation, or it may become the means of a radical cure, by the effusion of coagulable lymph which it induces; or, lastly, it may, by occasioning suppuration, be destructive of life.

V. Anasarca is a disease, the importance of which is alone determinable by the nature of its remote cause, and which will vary, in this respect, according as it is dependent, or not, on some visceral or other disease; or as it is connected or not with some cachectical state of the system; and whether as a *cause*, or an *effect* of it. In its idiopathic and simple form, the effusion of its fluid puts an end to the inflammation producing it, and, when occurring alone, is frequently vicarious of a similar effusion, which, under a slight variation of circumstances, might have been discharged into some cavity. As a purely local affection, it may derive its origin from the ordinary causes of inflammation acting either locally or generally; or it may be secondary to some inflammation seated in a cavity; or lastly, it may arise from some disturbance in the digestive function, by which this, and other distant irritations are produced, through the operation of that obscure law of the animal economy, denominated sympathy.

CHAP. III.

TREATMENT.

FROM the principles explained in the foregoing pages, it will be apparent, that, as the proximate cause of the several forms of the effusion, and which is the disease, is the same under all its conditions, the same general principles of treatment will be alike applicable to all; subject only to such modifications as arise from differences in the nature and intensity of the remote cause, and those general or local relations of the parts implicated in the serous effusion, with the diseases of the organs which incidentally produce it. Founding the treatment on these views, the following are the indications of cure, namely: 1*st*. To remove the visceral or such other disease or state, whether local or general, which, when present, proves a remote cause of the effusion; 2*dly*. To remove the morbidly increased action in the serous membrane or tissue, which is its proximate cause; 3*dly*. To promote the absorption of the effused fluid.

HYDROCEPHALUS INTERNUS, OR DROPSY IN THE BRAIN.

THE treatment of this form of dropsy is divisible into three general kinds; the first consisting of

means to correct, with its causes, that turgescent state of the brain, which may produce the arterial reaction and effusion; the second, of those which shall subdue the excitement, when formed; the third to correct or relieve, as far as it is practicable, the effects of the effusion, and procure, if possible, its absorption.

I. The general causes tending to produce that congestive state of the brain, precursory of its inflammation, are of three kinds. 1*st*. Those acting through the general system, and consisting of an irritation from some obstructed and required evacuation. 2*dly*. A local disease seated in the head, or a local injury inflicted on it. 3*dly*. Chylopoietic disturbance, acting sympathetically upon the brain.

The causes acting through the general system may be either from some of the emunctories of the body becoming obstructed, and their secretion diminished, as of the skin, as denoted by its harsh dry feel; or of the kidneys, as indicated by the scantiness of their secretion, &c.; or from a failure of the natural efforts of the system to produce some one of those obscure, but critical and sanative actions, which follow upon certain fevers; or from some artificial but long established drain, by issue or other source, being suddenly dried up. To obviate the two first of these causes, means must be employed to correct and increase the defective excretory action. For this purpose, we must employ diuretics, and the milder kind of diaphoretics and aperients, conjoined with the occasional use of the

warm bath, of leeches to the temples, and mild mustard cataplasms to the feet, together with a plain unirritating diet, warm clothing, with all those other general means which are useful in counteracting the tendency to the scrofulous diathesis.

By these means we may obviate the two first of these causes. For the third, in addition to these, an issue should be made somewhere in the neighbourhood of the part where the former discharge was seated; or a blister, which is to be kept open, may be substituted for it.

To some of my readers, perhaps, it may seem like an adoption of the doctrines of the humoral pathologist, to recommend so inconsiderable a remedy as an issue, for so considerable an affection as an incipient turgescence, or impending inflammation of the brain; but whatever may be said, and much may be said upon the question, the fact of its utility in many such cases is indisputable. As an instance illustrative of this fact, among many that have repeatedly fallen under my observation, I may mention here the case of a man whom some years ago I admitted into the hospital for epilepsy, which he had been labouring under during a considerable time. The fits occurred three or four times a week, and were preceded by that peculiar feeling in his right arm, which is termed *aura epileptica*. By an accidental exposure of that arm at one of my visits, I discovered a scar, and upon enquiry as to its origin, I learnt that it was caused by an extensive sore, which had been dis-

charging during several months, and which had healed up a short time only before he was attacked by the fits. The connection between his disease and the suspended discharge being apparent I substituted a seton in the neck for the medicines before in use, and with the result, I need scarcely add, of immediately curing him of his epilepsy.

Should there appear to exist any structural disease within the head, as the relic of a former state of excitement, an inflammation in the ventricles may be reasonably apprehended. To avert it, the most rigid and undeviating attention to regimen will be indispensable, whilst, at the same time, occasional cupping or leeching must be employed, and a seton should be fixed in the neck. For the object of the treatment, in these cases, is not to remove, but to avert the inflammation, and which, from the strong disposition to it conferred by the organic disease, can only be affected by avoiding, not merely the causes of inflammation but likewise all those agents which are calculated in any way to increase the momentum of the circulation; since, in some of these cases, the very slightest injuries inflicted on the head are sufficient to excite the inflammation of its diseased membranes. Indeed, so slight may be the cause, that in an instance which lately fell under my notice, and where dissection discovered the existence of much previous disease, it arose from the person whilst walking merely striking his head against a bird cage which was loosely suspended

from the ceiling. Beyond these, the common precautions against morbid irritations, little else in these cases can be done.

Where the turgescent state of the brain arises from a disturbance in the digestive organs, it will be remedied by means which are directed to this cause. The primary seat of this disturbance is usually in the liver, as evidenced by the colour, and condition of the stools, and the nature and effects of the remedies, though the irritation, which acts sympathetically upon the brain, is often seated in the *primæ viæ*. By correcting and increasing the secretion of the bile, and disburthening the bowels of their morbid contents, the sympathetic affection of the head will disappear. The treatment proper for this object, besides applying, as a measure of precaution, the cupping glasses, or a few leeches to the temples, and an evaporating lotion to the head, must consist in giving a small dose of calomel nightly, and in urgent cases two or three times, or oftener, in the day, and a laxative enema, or an aperient draught the succeeding mornings, assisting their general effects by diuretics, and by the most exact attention to regimen, both as to the kind and quantity of the food; whilst, at the same time, the use of the calomel is to be regulated by a daily inspection of the stools, and its employment prosecuted until the natural colour of them is restored.

II. When the inflammation is established, and arises from the presence of a tumour, or other structural disease seated in the head, it can rarely

be regarded or treated any otherwise than as the sequel of a disease essentially fatal. The whole of the treatment, if an opportunity be given of treating it, can be little else than palliative; for the inflammation which ensues, as an effect of the structural disease, is too often dependent on it to a degree that renders all the known modes of management unavailing.

When the inflammation is idiopathic, it is strictly a case of local increased action, and the treatment must be especially so directed. A bleeding from the temporal artery is proper for patients above the age of childhood; though a liberal bleeding from the arm, conjoined with copious local depletion from the temples, by means of leeches or cupping, is perhaps a preferable plan. When leeches are used, and they must be used for infants, they should not be in fewer number than three or four for an infant under six months, nor than five or six for one above a twelvemonth; and the bleeding must be encouraged, after they are removed, by bags of flannel containing bran, and repeatedly wrung through hot water; watching the effect which is made by the bleeding, upon the pulse, and upon the symptoms of the disease, and repeating its use in a few hours, if required. Where blood cannot be procured by cupping from the temples, leeches applied there are preferable, even with adults, to the taking of blood from the back of the neck. Their number should not be less than twenty-five or thirty; and the bleeding should be en-

couraged until a certain degree of faintness is produced. The object is to make expeditiously such a forcible impression upon the disease, as to remove the urgent symptoms whilst the bleeding is going forward: and where a patient is of an age to speak to the state of his feelings, the bleeding must be prosecuted to this result. Nor is there any other rule to be laid down than this, nor is there a need of any other; for the variable intensity of the disease, arising from the frequency of its combination with the higher degrees of inflammation, together with the varying states of plethora, and of constitutional vigour in different patients, especially in relation to its alliance with a strumous cause, render impracticable the giving of any precise directions as to the extent to which depletion must be carried. The effect of the bleeding, when actively pursued, must of course be watched, and any ill effects of it guarded against; and no long continued and active leeching should be carried on with children, without a medical, or other competent attendant, for this purpose; for, through the want of this, I have heard of some infants sinking under the loss of blood from continuing the bleeding too long; whilst I doubt not, many others sink under the disease, from an inert and inefficient practice being pursued, through the fear of producing such an accident. Along with the leeches, a blister should be applied to the summit of the head, and with it a cold evaporating lotion to the temples.

Where a full and visible impression is made by these means upon the disease, little more will be demanded afterwards than to watch the result. Some diaphoretic medicine, however, may be given assisting its use by the tepid bath, or the pediluvium; and the bowels are to be kept open by a small dose of calomel, which is followed, after two hours, by a draught of some aperient medicine. With this the medical treatment, there must be a rigid observance enforced of what is termed the antiphlogistic regimen; light and noise should be excluded; for these and other agents, possessing only a very limited power over the brain in its healthy condition, have a very considerable effect upon it in this its diseased one.

Many practitioners give the mild preparations of mercury, and particularly calomel, freely in this disease, under a notion of its having some specific power in subduing it; but it should never be so used, excepting in cases where the disease is symptomatic of some functional disturbance in the liver and other chylopoietic organs, when it is calculated, in conjunction with the local bleeding, &c. to afford the most important service. The cases reported of its great success in this disease, have been examples of this form of it; and conclusions respecting the suitableness of the treatment by mercury, under all circumstances of the disease, have thus been hastily and erroneously drawn. With children, the symptomatic hydrocephalus is, perhaps, a much more common form of it than the

simple inflammatory; but it is not always easy to those who are inexperienced in their treatment to distinguish between them. The condition of the stools, at the period when a child is labouring under the disease, will afford to such persons but an imperfect notion of its true nature; for the disturbance of the brain will often create a disorder in the secretions, both of the liver and the other chylopoietic organs, producing green looking stools; and there is often a congestive state of the brain for a short time preceding the full developement of the idiopathic excitement, which may, in like manner, by reacting upon the liver, create a disorder there. In cases, however, which are symptomatic of this cause, the chylopoietic disturbance will be found to have existed several days, or even weeks; and the origin of the disorder, in like manner, may be commonly traced to some irregularity of diet, or other obvious causes, and frequently in infants, to those which are connected with premature weaning; and sometimes even the cerebral disorder itself will have been only the last of a series of effects in the system, to which such disturbance had given rise.

Where this is the case, the nature of the disease becomes apparent, and a free administration of calomel becomes necessary as one material part of the treatment, aided by a somewhat less active use of the local depletory means already noticed. In the cases of this kind, I give half or a third of a grain of calomel every half hour, during several successive

hours, following up this medicine with a laxative enema, or some mild but sufficiently aperient medicine; and repeating, after some time the doses of the calomel, until a decided change is effected in the character of the complaint. For in this affection, when symptomatic, it is not sufficient to subdue the excitement, if this its remote cause be unremoved, since the local depletion, however far it may be carried, will be of no avail to avert the effects of a sympathetic irritation that still continues. Neither will it be prudent to trust to those means which correct the chylopoietic disturbance, to the neglect of those of a local kind, even where the evidence of such a cause existing is complete. For though the means applied to correct the disorder in the digestive organs may be sufficient to remove the turgescent state of the brain, which arose from it, yet those means will have little or no control over the excitement which that turgescent state has created; and still less can they avail in subduing an excitement, that may even survive its remote cause, and continue independently of it. By overlooking these facts, much distrust and disappointment have arisen with many, who confided in the opinion delivered by some writers, of the uniform prevalency of chylopoietic disturbance as a cause of this disease, and of the sufficiency of calomel to remove it. In general, mild aperients are much more suitable in this disorder than those which are termed active; and when insufficient of themselves they may be assisted by glisters.

And here it is proper to caution the reader not to discontinue these means immediately upon the occurrence of what appear to be symptoms of effusion, since frequently these symptoms, as it respects the effusion, will unexpectedly manifest their fictitious character, and disappear under a treatment nowise adapted to such a state, and with a rapidity too which equally betrays their true nature.

From cases of this kind so frequently coming under my observation, I was formerly inclined to dissent from the common opinion, that cases of effusion are remediable; and concluded that the reported instances of recoveries after such occurrences were nothing more than examples of the kind here referred to, in which symptoms of cerebral irritation or congestive pressure were mistaken for those of effusion; but instances of such apparent recoveries have since fallen under my observation, which fully convince me of their reality. The instances, to which I here refer, are those where the effects of compression only subsided very gradually; or where some one or more of them permanently survived the rest. In one case, there were the most decided symptoms of a permanent compressing cause within the brain, among which were a partial blindness and paralysis, with a fatuous state of the mind, but which, in the course of two years, were entirely recovered from. In another case of a boy twelve years of age, who recovered, there was, among other symptoms indicating compressed brain,

such a degree of spinal cramp as to occasion the cataleptic rigidity of the whole body, and which on subsiding left behind it the most entire relaxation and paralytic weakness of all the voluntary muscles, with an irremediable imbecility of mind. That these, and other examples like them, which must be of familiar occurrence to many practitioners, arise from a compression more permanent than what could depend upon simple vascular turgescence, is a fact which, I think, must be admitted; that they proceed, however, in all cases, or, perhaps, in any case, from a quantity of water accumulated in the ventricles, and which is afterwards absorbed, may, perhaps, be justly questioned.

But is there not, it may be asked, any middle state between the simple vascular turgescence, and the effusion of a fluid between the membranes, or into the ventricles of the brain, and from which may be derived the compression? To which enquiry it may be answered, that there appears to be such a state; for pathologists have erred in supposing the seat of the disease to be limited to the tissues which form the investing or lining membranes of the brain, or that, to constitute a dropsy of that organ, the effusion must necessarily be from these parts. For beside these membranous structures, there is, undoubtedly, though not demonstrable to the eye, an insterstitial tissue which pervades every part of the brain, and that into this tissue there is frequently poured forth an effusion, which forms what must be considered an anasarcous state of the

organ. In the instances in which this state occurs, the brain, on removing the skull-cap, may be observed to become expanded, and no longer to allow of being readily enclosed in its former bony case; and upon cutting into its substance, an oozing of the serous fluid from the divided surfaces is very distinctly observable. The fluid thus effused constitutes, therefore, a true anasarca of the brain, and must produce an effort at expansion; and, by the resistance given by the unyielding nature of its case, a consequent compression of its substance will ensue. The degree of this effect will vary according to the intensity and permanency of the morbid action producing the effusion, and the extent of the brain which it occupies. It may be inconsiderable from its cause being so, and from the tendency which the effusion in all cases has to abate the excitement causing it, and which in the milder forms of the disease produces no doubt that effect. In the severer examples, it might prove fatal without any of the serous membranes becoming implicated in the disease; and, on the other hand, recoveries will occur under circumstances of moderate pressure, with much more facility where the compressing cause is thus extensively diffused, and, therefore, more equally applied through the brain, than where, as in the ventricles, it is concentrated; whilst at the same time, the extensive effusion of the fluid through its substance, by being more extensively subjected to the action of the absorbents, will be thereby more readily removed from it.

Of the means to be employed to promote the absorption of the water under these, or other circumstances of its accumulation in the brain, little satisfactory can be said. The treatment must be founded on the use of such means as shall avert the risk of renewing an inflammation in the organ. To this end, occasional blistering the head will be proper; the diet must be spare, and the several secretions, particularly those of the kidneys, must be cautiously promoted.

HYDROTHORAX AND ASCITES.

These two forms of dropsy resemble each other so closely in the nature of their remote and proximate causes, as to allow of their treatment being considered together.

The obscure nature of the visceral diseases of the chest, which cause this disease, renders it frequently difficult to decide precisely upon their true seat, and still more so to determine, under what circumstances, as denoted by their symptoms, an inflammation and effusion shall arise from them. A chronic disease seated in the serous tissues investing the heart or lungs, &c., will afford, in general, but very indistinct indications of the mischief to which they are leading, until by the extension of the chronic inflammation to the outer serous membrane, an effusion begins to take place. The symptoms which ensue upon this effect occurring, are those proper to the mildest forms of the disease, and have been called precursory.

The plan of treatment to be pursued at this period, must consist in the use of those means, which shall subdue the chronic excitement of the serous membrane, and the primary chronic inflammation of the diseased organ. For this purpose six to ten or twelve ounces of blood are to be drawn from the integuments of the chest by cupping or leeching; selecting that side upon which the patient is able most easily to lie down, or where a pain is felt; and repeating the operation to the amount of half the quantity every third day, for three or four successive times, and occasionally afterwards as circumstances shall require. Along with the local bleeding, a somewhat active blistering must be employed upon the same side, repeating, likewise, its use as frequently as the state of the surface will admit.

With some persons, whose system is in a plethoric state, and which may be judged of by the presence of concurring symptoms, it may be proper to commence the treatment by a full general bleeding; for a local congestion within the chest is not unfrequent in this condition of the system, and becomes often, I suspect, a cause of an inflammation of the thoracic tissue, independently of any previous disease; and where, therefore, a disease already exists, it will add considerably to its intensity. In ordinary cases, however, venæsection will be unnecessary; for local depletion, combined with blistering, is more particularly adapted to correct that chronic inflammation of the serous membranes

which causes an effusion from them, and which is neither the result of any inflammatory diathesis of the general system, nor of a nature to produce it. General bleeding, therefore, excepting in the state of the circulation just noticed, is quite uncalled for, as it has no control over actions of so unmixed and so purely a chronic kind, and where the cause and seat are both local. Topical bleeding, when properly conducted, has the advantage of acting only slightly on the general system, and therefore only slightly on the general strength, and very considerably on the local disease; for, however unsatisfactory the practice may seem, when reasoned on *à priori*, from the little connection subsisting between the external parts of the chest and its internal organs, there is, unquestionably, the most important advantage to be derived from the practice, as every one experienced in its use can attest. Indeed, I am satisfied, that the advantage obtained from an occasional cupping or leeching of the surface contiguous to organs affected with chronic inflammation, will greatly exceed what several general bleedings would produce; and this, too, without any needless waste of the strength.

After subduing, by these means, the chronic action existing in the serous membranes, there will be much advantage derived from a seton fixed in the integuments of the chest, or a blister kept open there. Their operation is not so sudden nor so direct as the leeches applied there; but they are calculated in this, as in other local chronic diseases,

to produce a beneficial effect, by the habitual inflammation and discharge, and by the counter irritation which they keep up in the neighbourhood of the disease, and where local evacuations, under a more active state of disease, are confessedly of service. For it is a character of chronic inflammation to continue gradually progressing for an indefinite period, and with degrees of slowness which are imperceptible; and it is the purpose, and often in the power, of a seton or a blister placed in its neighbourhood, to arrest this chronic inflammation, and thereby to put an end to the secondary inflammation in the serous membrane depending on it.

And this practice, which is thus useful in correcting the chronic action in the serous membrane producing the effusions into the chest, is likewise suited to correct the chronic excitement subsisting in the peritoneal membrane of the abdomen, and very commonly the visceral disease producing it. In the enquiry, which will be hereafter published, into the pathology and treatment of the diseases of the liver, I have entered at length into a consideration of their nature and causes, and the relation they bear to this disease; and in reference therefore to them, and to the other diseases concerned in producing abdominal dropsy, it will be sufficient here to observe, that analogous to what occurs in the thorax, the chronic excitement of the serous membrane investing the organs, or lining these cavities, is generally kept up by a corresponding state of the diseased viscus; and that, therefore,

local depletion by cupping or leeching is necessary to both, and will often succeed in reducing the primary disease into an indolent state, and thus put an end to the secondary one depending on it.

With too many practitioners it is the practice to employ mercury freely in every case of abdominal dropsy, under the vague notion of there existing some mechanical obstruction in the liver or other viscus as a cause of it; and under the equally vague notion that mercury so employed will remove it. The practice, however, to speak of it in the mildest terms, is founded on erroneous views of the pathology of these diseases; and employed, therefore, as it is by some, on all the occasions in which they meet with them, must be frequently very injurious. For, independently of the injury to be produced by it, when given freely in some of the forms of liver-disease, there is an effect produced by it on the urine, when given to a person in health, resembling that which arises from the specific excitement of dropsy. Under a salivation the urine becomes charged with serum. Any condition of the system, therefore, approaching even to the state of salivation, must be injurious, by the tendency it must have to increase that morbid state of the body, which is nearest allied to the hydropic one. Hence the mercurial salivation has been numbered amongst the remote causes of dropsy; and the resemblance between the dropsical and mercurial excitement, thus established by the common resemblance of the urine in these states, goes far to prove this

connection; and it is not improbable, that the mercurial inflammation, when considerable, may survive its specific cause, and degenerate at length into the purely hydropic state. When, however, mercury is given in minute doses, so that these its specific morbid effects are not produced, it is capable of becoming highly useful, as we shall presently have occasion to notice.

In conjunction with the employment of topical bleeding, and the other means just noticed, drastic purgatives have an important influence in subduing the disease; and this not merely by removing the water, but, likewise, by contributing to subdue the chronic excitement which occasions its effusion. They have been employed during many ages in nearly all the forms of this disease, and with very different, and often contradictory views. But, however erroneous were the theories which dictated the practice, the practice itself was often successful. For it happened then, as it often happens in the present day, to the misfortune and disgrace of medicine, that errors in speculation were perpetuated by being founded in what was right in practice; so that a treatment frequently became successful only by missing the object it was professedly aimed at, and happily attaining some other one. The plan, therefore, which, under different views, and in pursuit of various imaginary objects, has so long prevailed, of prescribing active drastic purgatives in this disease, has not only succeeded in carrying off the water, but has in many cases

produced by the counter action and irritation these excited in the mucous membrane of the bowels, the farther benefit of removing that morbid action in the serous tissue investing them, which had caused the serous discharge, and sometimes the primary disease of the viscus itself, which produced and prolonged it. The drastic medicines which have been given at various times in this disease, form a somewhat numerous list. The one which I prefer to the rest, and am accustomed to rely on, is the gamboge. This medicine generally causes considerable watery evacuations from the bowels; and in cases where there is much water collected, as in ascites, I have seen upwards of three gallons discharged in the course of a day from the bowels, with a very sensible decrease of the abdominal swelling. Its effect, to be useful, must be that of obtaining watery evacuations: and where these are fully produced, the oppression in the breathing, and the other distressing symptoms, whether in the abdomen or thorax, become much relieved. When the strength admits of it, the purgative may be repeated once in four or five days. In general they are borne better in ascites than in hydrothorax; though there will necessarily be great differences in this respect, from the varying character of their causes respectively.

They are sometimes inadmissible in ascites, from the nature of the visceral affection; for where a disease of the liver or mesentery is its remote cause, and the disease at the same time is in an

aggravated form, there is a tendency to a spontaneous and distressing diarrhœa, which even the mildest purgative would increase. In the case of the mesentery, such a mode of treating the dropsy would speedily destroy the patient; and with respect to the liver, whenever a diarrhœa is found to attend its disease, or survive the ordinary operation of a drastic purgative, and particularly if accompanied by tormina and straining, and be checked only temporarily, and with difficulty, then this and all other drastic purgatives must be withheld; for such cases generally prove fatal; and the ascites itself, which, in many of these severer cases, is unattended by that sign of the hydropic diathesis the coagulable urine, may be regarded as a mere sequela of the disease, and not the most urgent one.

Besides these means, there is another important class of medicines to be noticed, which afford great benefit in this disease; namely, diuretics. The sensible operation of these medicines, as is well known, is to promote the secretion by the kidneys. There appears to me, however, to be farther effects produced by them upon the system, or particular parts of the system, which is not referable to the mere evacuation of a certain quantity of fluid from the body; and these effects, it is probable, consist in promoting the natural discharges by this, and, perhaps, the other emunctories, whose partial suppression may either produce this disease, or serve materially to continue it. They

act likewise in occasioning a derivation of blood to the kidneys, and therefore to a part distant from the morbid one; so that thus, whilst they are contributing materially to the removal of the fluid, they are serving, like the purgatives, an important end, in assisting to subdue the causes of it. The medicines which I am much accustomed to rely on in this disease are the powder of dried squill and digitalis, given in combination in the form of pills, and in doses which, from their smallness, will probably excite no little surprise in the minds of some of my readers. The dose of the squill is something less than a grain, and of the digitalis often only a sixth part of a grain, given uninterruptedly every third or fourth hour.

To many who are accustomed to consider the efficacy of a medicine to be dependent on the quantity that can be retained upon the stomach, or in any way introduced into the system, the doses just announced will appear insignificant and useless; but to such it may be remarked, that the rule by which medicines act beneficially, in exciting certain specific and curative actions in the body, has no relation whatever to the mode by which they are borne in the system, or retained on the stomach; nor is it to be assumed of a poisonous medicine, because its allowable dose is at best but a small one, that it, therefore, will be most beneficial when taken at its maximum strength. For, as to any thing that can, prior to experience, be assumed or known to the contrary, the very reverse

of this may be the truth; or it may be, what, indeed, is the fact in regard to digitalis, that the minute dose of a sixth part of a grain, given every three hours in union with squill, has all the efficacy, as a diuretic, of the largest doses which have ever been ventured on of this medicine, and none of their danger. During several years' practice as physician to a public hospital and dispensary, I never saw occasion to exceed much the above doses in this, or in the other many diseases in which I employed them. To render them more diuretic, it is proper, however, in this disease, to give a third or the half of a grain of calomel nightly, and an infusion of dandelion, or some other of the popular diuretic decoctions, and which may be taken, *ad libitum*, as a common drink.

With some practitioners it is usual to allow their patients daily portions of gin-punch, with the double view of aiding the operation of the diuretic medicine, and of supporting their strength; but the practice, as a general rule in the treatment of these diseases, is exceptionable; for though it may seem to assist, and sometimes, indeed, does assist, in carrying off the water, yet it tends to perpetuate the remote and proximate causes of the effusion.

But on these points, indeed, an error in the conclusion formed concerning the impropriety of this treatment, may be easily committed, as a practitioner may believe that he is radically curing the disease when he is only temporarily removing

the effusion produced by it. For the discharge of the fluid will often proceed only slowly, whilst the absorption of that already collected may go on quickly by means which are valuable to that end, but more or less injurious, or, at best, but useless to the disease itself; so that on disusing them the fluid again collects, and the patient is then thought to relapse; although the truth of the matter is, that the cause had been left unremoved, or, perhaps, rendered worse by the treatment. In some cases, however, the practice is allowable; for the dropsical accumulation, as we have before observed, may be all that there is remaining of the disease; for the effusion often becomes, in the idiopathic forms of the disease, a remedy to the inflammation; and, therefore, all that is required for the recovery of the patient is simply the removal of the water.

In general, diuretics answer their purpose best in this disease, under the liberal use of so much drink as shall satisfy the desires of the patient, and also when a somewhat cathartic effect is produced by them; and, therefore, where they do not occasion this latter effect, and the urine continues scanty, it will be proper to give a dose of the super-tartrite of potash every morning, either alone, or dissolved in the patient's diuretic drink, and which may be taken in the course of the day.

The observations which have now been made are applicable to the treatment of hydrothorax and

ascites, when arising from the inflammation of the investing membranes, from a chronic inflammation of one or more of the viscera.

There remains now to notice the treatment proper for the idiopathic forms of inflammation, leading to serous effusions, and which may be either strictly local, or consist in a nearly general excitement in the system, and of which the exhalants of the several serous membranes only partake in common with the rest of the serous tissues. In this form of dropsy the pulse is hard, and venæsection then becomes an important remedy in its treatment. The blood in these cases exhibits strongly the buffy appearance, and the urine coagulates freely when subjected to heat. I have met with several cases in which a considerable accumulation of water had taken place in the abdomen, and in the cellular tissue of persons of a plethoric habit, when by a copious bleeding the disease was at once arrested, and the water afterwards absorbed.

The very successful issue, indeed, of the practice here recommended in cases strictly idiopathic, is among the most agreeable occurrences which the medical practitioner can meet with; for the distressing associations connected with this disease render its presence a source of considerable disquietude to patients and their friends. As an instance in point, I may notice the case of an interesting young woman who applied to me labouring under abdominal dropsy. It was attributed to

cold, and had only existed about three weeks; yet the body had become considerably distended, and the fluctuation very distinct. Her general health was only inconsiderably affected, and there was no anasarca; the urine was scanty, and was only slightly coagulable by heat; the pulse was increased somewhat in its force and strength. The abdomen had been gradually enlarging up to the day in which I first saw her, when I directed fifteen leeches to be placed upon her body, and after twelve hours a blister, and to take a brisk cathartic, with some diuretic medicines. On the following day the swelling was found to be stationary, and on the succeeding one it was perceptibly lessened. On the third day eight leeches were again placed upon the body, and a second blister; and the cathartic was repeated. The urine now became copious, and the size of the abdomen decreased. In something more than a fortnight, the dropsy was entirely removed, and the patient has since continued well.

In some patients whom I have attended under this particular form of the disease, and in whom the recovery was equally rapid, there have occurred returns of the effusion, from neglecting to avoid the ordinary causes of irritation, and which were again removed by the same treatment, and the cure completed by a more scrupulous adherence to the rules enjoined. In one patient this renewal of the dropsy occurred thrice in the course of seven months; and it was not until after repeating the

use of the leeching and blistering for several times, assisted by the other means, that the entire re-establishment of the health became secured. These attacks of idiopathic dropsy, according to my observations, are more common with females than men, and more with the young than with those in middle or advanced age. If in the early periods of their appearance they are neglected, or mismanaged in their treatment, and any of the ordinary causes of inflammation be applied, there will be a danger, not only of their becoming established, but of a higher form of inflammation being superinduced upon the first one; when a fresh source of irritation of the peritoneal membrane being created, a structural disease of it may be formed, and a cachectical state of the system at length induced.

The effusion into the chest or abdomen occasionally occurs after scarlatina, combined with anasarca, which is preceded by a slight œdema about the upper parts of the body. When into the former cavity, it is of difficult management, since it often partakes of the twofold state of debility and excitement; for its course is so rapid, that frequently all the mischief is done before its approach is well suspected; and when, therefore, it is discovered, it is sapping the very foundations of life, by its disturbance of those actions upon which life itself depends. When early detected, blood must be promptly drawn from the arm by venæsection, and from the chest by cupping or leeching, followed by the use of the warm bath, by a blister to the

side, and by the exhibition of a brisk cathartic. Diuretics, which are so beneficial in the less acute forms of dropsy, are commonly too inert and slow in this, unless given in doses to act immediately upon the vascular system, when the infusion of of digitalis, as given by many practitioners in all the other states of the disease, may be resorted to; since the prompt treatment here is not so much to remove the water, as to prevent, if possible, its farther effusion; for where a discharge suddenly takes place into the chest after scarlet fever, it will generally prove fatal, even though the quantity collected be inconsiderable, and only such as would occasion, if gradually effused, a moderate legree of inconvenience to the lungs.

Of the treatment by tapping, where required, ve shall reserve the consideration until we have lisposed of the two other forms of the disease.

TREATMENT OF OVARIAN DROPSY.

THE treatment required in ovarian dropsy differs somewhat from that which is proper for hydrothorax and ascites. For this form of the disease is never attended by the serous state of the urine, until after repeated tappings, when the general irritation excited in the system by the local disease, and which has been aggravated by this cause, gives rise at length to the hydropic diathesis. There is, therefore, in the early periods of the disease, but little debility from the effusion; since by the in-

considerable degree of absorption which takes place from the sac, there is plainly not, as in ascites and in anasarca, any considerable waste of the strength by the loss from the system of a nutrient part of the blood. The disease of the ovarium, likewise, gives no disturbance to any considerable or vital function, and originates from no obstructed emunctory. The urine, therefore, is only partially diminished in its quantity, and there is no thirst, and the general health is unimpaired. The disease, in fact, is purely local, and in an organ not vital, and the principal means of treatment must consist in occasional leeching and blistering; in the use of diuretics; a spare regimen; the warm bath; and in preserving a moderately open state of the bowels; for the object is to subdue the chronic inflammation in the organ, which is the remote cause, together with the corresponding action in the investing tissue, which is the proximate cause of the effusion; combining with it, at the same time, the farther one of procuring the absorption of the fluid.

When the disease is brought under treatment, before the inflammation has extended from the diseased ovarium to its serous envelope, the dropsical effusion may in general be averted. The difficulty, in general, is to detect such chronic inflammation. In some women of spare habits, the enlarged ovarium may be felt like a ball under the hand, when placed on the side of the abdomen. In these cases, repeated leeching, with attention given to void all the causes of inflammation, will prove

successful. In a case which I saw some years ago in consultation, both ovaria were enlarged, and were painful when pressed upon, but which were brought into a passive state by repeated leeching; and the morbid enlargement of the organs has since then gradually subsided, and without any appearance of dropsy.

The advantages, however, of local bleeding, are not limited merely to these the incipient forms of the disease, but the same means will arrest the disease, even when it has advanced so far as to cause the effusion; and the water, contrary to the general opinion, may be re-absorbed. Several instances of such success have occurred in the course of my practice. One of these was in a married lady about thirty years of age, whom I saw in consultation with my friend, Mr. Watson of Cottingham. In this case the fluctuation was quite distinct, and the body was enlarged to the extent of what it usually is at the sixth month of pregnancy. By the use of leeches several times applied to the abdomen, and of diuretic medicines, the abdominal enlargement was entirely removed, and the patient has since that time continued perfectly free from her disease, and has become the mother of several children. Since the occurrence of this case, several others of a striking kind have been under my care, and some of them are detailed in the fourth chapter.

TREATMENT OF ANASARCA.

In treating anasarca, it is necessary to advert to the nature and causes of it. If it be idiopathic, and unconnected with any dropsy of a circumscribed cavity, and the pulse at the same time be soft, and the urine free from serum, it may be treated solely with the view of procuring the absorption of the effused fluid; as, in such cases, the watery discharge, in all probability, will have removed in a considerable degree the excitement which caused it. In these cases, recoveries will take place under almost any plan of treatment; for it requires, to effect this object, only the ordinary action of the absorbent vessels to carry off the water. The bark and other tonics, therefore, with the many popular remedies for dropsy, which are so commonly given, and their success so boasted of, in its treatment, are in truth, if useful at all, only so in a very limited degree, and that only in removing what must in strictness be considered the effects of the disease; since the excitement which caused it had ceased upon its occurrence.

In all cases of this kind, puncturing the œdematous parts, by which the fluid escapes, or frictions employed upon them, with bandages equally applied, are of service in promoting the removal of the fluid, aided by the use of diuretics, and the other means which are useful for the same purpose in the other forms of dropsy.

To œdematous swellings, in which the local inflammation, whether symptomatic or idiopathic, still subsists, I am accustomed to direct the application of leeches, and cold evaporating lotions, observing not to commence the use of the latter until twelve hours after the leeches have been used, that inflammation may not be produced in the wounds.

By many of my readers, to whom this practice will be novel, a fear might be entertained, (for such fears have been entertained, and expressed to me by many gentlemen who have seen me directing it,) that the punctures made by the leeches would terminate in troublesome sores. No such consequences, however, follow; although, from such effects succeeding the artificial puncturing of the lancet, the fears could not be deemed unreasonable. The truth is, the cases are not analogous; for the punctures made by a lancet are more deep than those made by leeches, and necessarily penetrate the cellular tissue, where, in most of the cases in which this practice is resorted to, there is present already a certain degree of inflammation, which the puncturing, slight as it is, is quite sufficient to increase.

And here it may be in place to remark, with respect to the use of puncturing and bandaging, that neither of these are admissible until the inflammation has ceased. When used before this period, the puncturing frequently produces an inflammation of an erysipelatous kind, and which, in

the aged or debilitated, and particularly in those in whom the disease has long existed, may terminate in gangrene. When bandaging is prematurely employed, the injurious effects which arise from it, are that of causing the inflammation to extend beyond its previous limit, and of preventing those remedial effects of the effusion, which, in the ordinary and idiopathic forms of the disease, may be frequently found to result from it.

When anasarca arises from a general inflammation in the cellular tissue, as denoted by the pulse, and by the serous quality of the urine, venæsection becomes necessary, combined with the use of leeches applied to the extremities, or to those parts of the body in which the serous tissues are most affected, along with the active use of the general means already alluded to. With respect, however, to this form of the disease, it may be well to caution the younger part of my readers against the error into which they may be apt to fall, of estimating the degree of its danger, and of the necessity for active treatment, by the single consideration of the extent of the œdematous swelling; and of treating it accordingly. For this disease, when idiopathic, and arising from cold, although highly formidable in appearance, from the very considerable degree of œdema, is, when properly treated, of little account, when compared with some of the other forms of the disease; and in many cases, the more considerable are the swellings, the more secure will be the important cavities from being implicated in the affec-

tion; since the effusion will be the more likely to have served as a remedy to its cause.

In the cases, therefore, where the disease is not seen early after its appearance, the treatment may be frequently limited to those means which promote the absorption of the water; and neither venæsection nor leeching will be required. The state of the pulse, and of the urine, and the presence, or otherwise, of marks of vascular excitement, and the history given of the case up to the period when first visited, and particularly in relation to the progress of the swelling, must guide the practitioner in his decision concerning it.

About ten years ago, I was desired to see a young woman, a servant, labouring under general anasarca and ascites, who had taken cold from washing a stone floor upon her knees, and from getting wet whilst engaged at her work. Her disease had existed only five days when I first saw her, and yet her swellings had reached, at that time, their utmost size, and surpassed very greatly in extent any thing I had ever before witnessed. Every part, indeed, was so enormously swelled as quite to stiffen the joints, not excepting, if I remember rightly, the parts engaged in moving the jaw. The disease, however, as I have just observed, had reached its highest point, and the inflammatory action had exhausted itself; I directed the treatment, therefore, exclusively to promoting the absorption of the effused fluid from the cellular tissue and the abdomen, in which, upon the lessening of the

œdema about the body, I very plainly discovered a fluctuation. In the course of a few days the action of the kidneys commenced, and a copious flow of urine was produced and continued until every vestige of the former effusion was entirely removed, and the health of the patient re-established.

When the dropsy of the skin is considerable, and long protracted, and symptomatic of some visceral disease, as it most commonly is in these cases, and is attended by a serous state of the urine, and a general failure of the strength, the cachectical state of the system may be considered as established, and the treatment is then beset with difficulties. For the general means, which are useful in the earlier states of the disease, and when the vital strength is entire, become injurious in this, by the tendency they have, aided by the effects of the visceral disease, to diminish farther the vigour of the system; whilst, at the same time, the treatment, which is suited to support the declining strength, can contribute nothing towards lessening the constitutional and local disease; but will frequently increase that morbidly excited state of the circulation, which, analogous to what occurs in diabetes, will continue and increase under the most decided marks of general constitutional weakness. Pending the continuance of that inflammatory state of the system, in which the urine is charged with serum, the debility will be mainly derived from that drain of its nutrient parts, which is thus established in the body, assisted by the

weakening effects of the organic disease. If blood be drawn, it will be found, in many of these cases, to exhibit the usual signs of inflammation; and the treatment of the tonic kind, when employed to support the strength, will be often found to act unfavourably.

The plan to be pursued must consist in the use of such means as shall assist the powers of digestion and assimilation, so that, by a nourishing but plain diet, the drain from the system may be somewhat counteracted; and, at the same time, the cause of the effusion is to be corrected by the use of local depletion and blistering, and by the temperate employment of those general means which are useful in the less aggravated forms of the disease.

The diet of patients in the symptomatic forms of dropsy should be plain and very spare, and beyond this no precise rules can be laid down, from the necessarily varying character of the visceral diseases, which act as remote causes of the effusion. In the idiopathic states of the disease, the antiphlogistic regimen, as it is termed, should be rigidly enforced, and particularly an abstinence from animal food, and from all fermented liquors. The clothing should be moderately warm, and selected of that kind which will best promote the insensible perspiration of the surface. Chamois or wash-leather drawers, and a waistcoat of the same material worn next the skin, will, in many cases, prove highly useful for this end,

and may, as a preventive means, be likewise very properly resorted to in many of those cases, where there are grounds for apprehending its approach. The wash-leather dress here recommended in dropsy, is preferable to flannel or fleecy hosiery, on account of its occasioning less heat and more moisture upon the surface; and of its being less permeable to it than those, so as to allow of less evaporation, and thereby to diminish the risk of any chilliness occurring, by which the healthful action of the skin might be interrupted. For it is to be observed, that a cool atmosphere, provided it be dry, is greatly to be preferred for a dropsical patient, and particularly for one labouring under anasarca, since, if he be kept secure from sudden changes of temperature, there is a positive advantage to be derived from it, as it aids very materially the effects of the diuretics, and tends to lessen the morbid action in the cellular tissue, as well as the thirst and other uneasy sensations resulting from it.

TREATMENT BY TAPPING.

In the observations which were made on the treatment of ascites and ovarian dropsy, we proceeded upon the assumption of its being practicable to remove the water by the natural passages. On many occasions, however, from the permanent nature of the remote cause, or the neglect of

adequate or sufficiently early means for its removal, the necessity arises for tapping; and in all such cases the operation is to be regarded as a necessary evil, and resorted to only as the means of avoiding a greater one.

The material points, therefore, for consideration will be, at what period, and under what circumstances of the disease, it should be employed. Now, the circumstances calling for this operation are, where, from the very considerable accumulation of the water, and the consequent distention it occasions, a permanent and morbid stimulus is given to the peritoneal membrane, by which the inflammation of it is perpetuated or increased; or where so much pain and irritation are produced, as to risk the inducing there a similar disease of the chest, and of bringing on likewise an ulcerative form of inflammation in the peritoneal lining of the abdomen; whilst the objections to its employment consist, in the danger which is incurred, where there is much visceral disease, of its causing a destructive form of inflammation in the peritoneum; and the probability of its occasioning, under the most favourable condition of the disease, a more rapid renewal of the serous accumulation.

The errors concerning its use, into which, according to my observation, practitioners are prone to fall, are in having recourse to it much too early, and, therefore, much too frequently; and likewise often under a condition of visceral disease, which

renders its success impossible. In cases of simple ascites, to take the most inconsiderable example of it, where the cause is of an incidental nature, and but little connected with hepatic disease, the operation will be attended with no danger, and may be successful, but can rarely, if ever, be required, where the proper treatment has been pursued; and should on no account be resorted to until after the amplest trial of all the various means for the removal of the water, and its causes; and not until, through the failure of those means, it has begun, by its pressure upward, to threaten a serious disturbance to the breathing, and the other consequences just noticed: since in cases where tapping is too long delayed, the accumulated water, which is but an effect of a disease, may become itself a cause of one.

The inconvenience of the operation, if so mild a term be allowable, is, we may repeat, in occasioning a renewal, or an aggravation of the inflammation in the peritoneal lining; whilst the danger in all cases is in the nature and amount of the visceral disease producing the dropsy, and not in the dropsy itself; because, even a slight degree of disease, especially of the liver, will sometimes produce ascites, when in a severer form of the same disease there shall be a very inconsiderable quantity, or even no effusion of water, from the accidental circumstance of the peritoneal envelope of the organ being implicated in the disease in the one case, and not in the other. Many cases, therefore,

of ascites, even when combined with anasarca, may be inconsiderable in point of danger, when the dropsy, under its simplest form of œdema of the ankles, shall be irremediable; since it is, in this last case, the sequel of an essentially fatal disease of the liver, or of some other viscus.

To determine correctly, therefore, regarding the danger of the operation in respect to the inflammation that may ensue upon it, a reference must be had to the nature and extent of the hepatic or other disease, and not merely to the intensity or the extent of the inflammation, and of its hydropic effusion, both of which are but secondary.

In illustration of the importance of referring to these distinctions, I may notice the case of a female patient of about thirty-five years of age, whom I admitted some years ago into the Hospital, labouring under an ascites and general anasarca to a degree that I never saw exceeded. The disease was of some months' standing, and all the usual means had failed with the practitioner whose care she had been under, and who had been only deterred from tapping by the fear of its danger, as her disease was known to have originated from intemperance. There were, however, no decided symptoms of hepatic disease, nor any signs of effusion into the chest; and the disease, although formidable in its appearances, and in the disturbance it gave to the breathing, was not so in reality; and the water, therefore, as a

measure of necessity, was drawn off by tapping. In three weeks the anasarcous water was absorbed, and there was no return of the ascites. She left the Hospital well: and I heard several years afterwards that she had since that time continued altogether free from her disease.

Whenever, therefore, after a full and inefficient trial of the means for procuring the absorption of the water, a patient in ascites becomes, from the distention of the body, in a certain degree unable to lie down in bed, recourse must be had to the operation; for the accumulated water in these cases is acting as a mechanical irritant to the peritoneal membrane, and thus perpetuating its disease; since, besides the imminent risk incurred by the delay of inducing an ulcerative inflammation in the peritoneum, there is the farther one of causing an effusion into the chest, from the irritation given by the injurious pressure of the water upon the organs there. Delay under such circumstances may be followed by a fatal event, as I have more than once witnessed. In one instance, which occurred a few years ago, the importance of the operation under the circumstances just noticed, became strongly illustrated. It was the case of a man of about fifty years of age, who, previously to my visiting him, had been labouring under an ascites, and almost general anasarca, during two months; and for the previous ten days had been unable to lie down in bed, from the impediment it occasioned to his breathing. Nevertheless, his pulse was regular

and otherwise natural; his stools were of a healthy appearance; and even his appetite and digestion were little impaired; but the urine was exceedingly scanty and high coloured. Drastic purgatives made no active impression on his bowels, and diuretics were equally inefficient. Indeed, the abdominal distention was strongly acting in his case as a morbid stimulus to the serous membrane of the abdomen, and was thus perpetuating the serous effusion from it; and as, therefore, the difficulty of breathing, and general distress of the patient from this cause, were becoming exceedingly urgent, and as the visceral disease was evidently inconsiderable, and the risk of an effusion into the chest imminent, the operation of tapping was urgently recommended, as the only means that could be then afforded for his relief. The advice, however, was not followed; and another physician having been consulted, a fallacious hope was held out to the patient, of the practicability of carrying off the water by the natural passages. The issue of the case was such as was apprehended; for a few days afterwards, whilst the attendants were lifting him from his chair to the bed, he was suddenly suffocated.

When, from the causes already stated, the operation of tapping becomes necessary, it will be proper to premise its employment, by giving, the day before, a few grains of gamboge, or some other drastic purgative; for it is of considerable importance, to perform the operation under the presence of as low a degree of the inflammation in the peritoneum as

circumstances will admit of; although, in the cases where the operation is required, it is obvious that a measure of that morbid action must be present; as it will be only by its resisting the ordinary means for subduing it, that the operation itself is required. Six hours after the operation, a few leeches should be applied to the abdomen, and repeated the following day. At the same time the several remedies in use previous to the tapping should be continued; and not merely those which were appropriated to the primary and secondary causes of the effusion, but also those which are employed for promoting its absorption; for they all severally contribute, as we have already had occasion to notice, to the removal of the inflammation in the serous tissue producing the effusion, and of such visceral or other disease, by which the former morbid excitement in the serous membrane was originally produced, and will be still perpetuated.

CHAP. IV.

CASES ILLUSTRATIVE OF THE PATHOLOGY AND TREATMENT.

The following cases are selected from my case-book, to illustrate the principles of pathology and treatment inculcated in the foregoing pages, and to test by the success of the treatment the soundness of those principles. The selection is small, because it is not so much my object to point out the precise mode of practice which each particular case may require, and which must be varied by circumstances, as to prove the value of the antiphlogistic mode of practice for the treatment of dropsy, and the practicability of curing those various forms of the desease which, for the most part, have hitherto been regarded and neglected as incurable. In selecting the cases, it has been my purpose in particular to show, not merely the reality of the relief afforded by the treatment, but also the reality of an extensive structural disease as a remote cause of the effusion, and the power — the real power — of the remedial means to promote the absorption of the fluid, and, at the same time, to abate so much of the force of its cause as to prevent for the future its return. To those who have perused the preceding pages it will be readily comprehended the

distinction between the cases of dropsical effusion, as occurring from a simple inflammation primarily set up in a serous membrane, and the same effect induced by an inflammation which is sequent to, and superinduced upon, a structural disease, and which involves in it important changes in the condition and function of the organs affected. The cure of the first kind is rendered easy by the singleness of the affection, and the singleness of the means to remove it, and is often effected by remedies of a popular sort and of little power; whilst that of the other is rendered difficult, and by many thought impracticable, from the structural disease which is present, and which, independently of its acting as a remote cause of the effusion, will equal or surpass it in danger. Nevertheless, among the following cases, instances of recovery from both these classes will be found, and by which it will be manifest that every variety of dropsy admits of relief; — that cases in every form of the complaint may be permanently cured, and some even under circumstances the most unpromising in respect to the extent and seat of the disease which produced it.

The number of cases which I have selected is twelve. The first case is one of considerable interest. I copy the account of it from the Lancet Journal, No. 359, to which it was communicated by Mr. White, as intended to illustrate the truth of the pathological principles inculcated in this work, and to prove the power of the treatment recommended in it to arrest the course of the disease,

and to remove its worst symptoms under circumstances the most hopeless. The subsequent death of the patient, and the opportunity afforded of a *post mortem* examination, proved that the treatment had been effective to remove the effusion, and temporarily to suspend its cause, and this even where the most extensive organic disease existed, and where, could its utmost extent have been known, no rational hope could have been entertained of even the most moderate degree of success. Yet the patient was nevertheless very materially relieved; affording thus the most substantial reasons for assuming, that in this, as in other cases of extreme organic disease, the same treatment, which proves effective in so greatly mitigating or arresting the disease, would be wholly remedial of it if early and diligently pursued; and that in no case are we warranted in abandoning a dropsical complaint as utterly irremediable, and as fitted only to be treated by tonics and stimulants, or those various means akin to them, which have taken the *misnomer* of palliatives.

The second case resembles the first one in all the leading points of the disease. There is an effusion of water to a considerable extent into the cavities of the chest and body, together with an anasarcous swelling of the limbs, constituting a form of dropsy in which the most unfavourable symptoms are present, and the most unfavourable prognosis would be given; and where the practice pursued, so contrary to the prescribed modes, triumphed

over the disease, and procured for the subject of it, not merely a temporary respite, but so entire a recovery, that during several years he was wholly free from it.

The third case is a well-marked instance of dropsy of the chest and body, and of the lower limbs, and exemplifies the power of the antiphlogistic method of treatment for speedily removing the complaint. In this case there was every thing unfavourable in the condition of the patient. She was aged, and had been long diseased. The readiness, however, with which the urgent symptoms of dropsy yielded, proved that whatever might be the extent of the structural disease, the surfaces of the serous membranes had been only recently implicated in it; and that so much of the disease as pertained to those tissues, and thereby produced the effusion, had become subdued by the treatment.

The fourth case is nearly of the same kind as the preceding, but of less intensity. The effusion of the fluid was in the chest and lower limbs, the body being free from it. The treatment was of the same kind, but less active, and less prolonged, and the disease fully yielded to it. The patient has continued well since, with the exception of slight relapses from imprudent exposure to cold and other obvious causes; but the same treatment readily corrected these and re-established him in health.

The fifth is the case of a lady in whom a dropsy of the body occurred, and which was removed; but,

through a wilful neglect of the preventive regimen was renewed, so as to render it necessary, through the great distension, to have immediate recourse to the operation of tapping. After the operation the treatment for the entire cure of the disease was needlessly interrupted by an attack of the gout, and by the prejudices of the patient; and when I again saw her, her body was partially filled. The further effusion, however, was now prevented, and the effused fluid carried off; and so entire a removal effected of the cause which produced it, that she continued free from it for the two years that followed, during which I resided in her neighbourhood.

The sixth case is of a gentleman of advanced age, whose recovery from his dropsy, and subsequent death, after some months from disease, demonstrate at once the true pathological conditions under which his dropsy was produced, and the abatement of so much of the disease on the serous surfaces as was required to prevent the return of the effusion. The danger when he was first seen was imminent, from the effects of the fluid effused. Upon the removal of this, his life became prolonged; and though he died at length of the disease of his liver, which was the remote cause of the effusion, yet there was no return of his dropsy; for the inflammation was no longer on the surface of the organ, but in the internal tissues of it; and it was from the disease alone, thus continued, that the patient sunk.

The seventh case is one of less severity than the two last, from its having come earlier under treatment. There was a slight effusion into the cavity of the chest, along with an anasarcous state of the legs, and the disease was gradually advancing to the severer state. It forms, indeed, a good example of that milder form of the complaint, in which the symptoms are not unfrequently regarded as anomalous, or confounded with some others, and a treatment directed for them as various in its kind as are the opinions entertained of their nature and origin. Like the two last, it yielded to the means employed, and it resembled the first in the peculiarity here to be noticed, of the conversion of one disease into another, by which the irritation, in a slight degree, is translated from the tissues of the chest to the head, and an affection of the latter is superinduced. It is a circumstance not uncommon in those hydropic complaints in which a congestive fulness of the system is the remote cause, but which yields to the same method of treatment which they require.

The eighth case is an interesting one, as affording a somewhat striking illustration of the truth of the principles inculcated in this treatise, and serving especially to show the dependence of the effusion upon the presence of inflammation in the serous membranes, as its cause, and the no less independence of it upon any mere enlargement of an organ; proving that, whilst the inflammation, which promotes its morbid growth, is limited to its

cellular or interstitial tissue, as contradistinguished from its serous or peritoneal envelope, no effusion will take place, and that it is not from the bulk of a diseased organ acting mechanically, but from the inflammation extending to the surface of it, that this effect is produced.

The ninth case is an instance of ovarian dropsy, the particulars of which, with the successful treatment pursued, were communicated to the "Lancet," from which I extract them, by Mr. Morgan, a respectable surgeon of Corsham, Wilts. It differs from the common course of this disease in its being of the sub-acute kind, and attended with more marked appearances of inflammation. The treatment was by general bleeding, instead of the local evacuations usually resorted to by me; but the inflammatory action became arrested by this treatment, the water was carried off without having recourse to tapping, and the patient was fully and permanently restored to health.

The tenth case is also one of ovarian dropsy, which did not come under my care until after the fourth operation of tapping, but which was arrested by a long perseverance in the antiphlogistic treatment; and the patient has now reached the end of the second year of her recovery, without any return of her disease. It affords an excellent illustration of the truth of the pathology given of this disease, and an answer to the opinion rashly affirmed by many, that ovarian dropsy is incurable.

The eleventh case presents a striking example of

ovarian dropsy, and of the course which the disease pursues from the period when the inflammation and enlargement of the ovaria commence, to the time when it is consummated by the effusion being poured out within the capsular membranes. Like some of the others whose histories I have given, this case proves the fact which has been so much denied, of the practicability of effecting the absorption of the fluid of ovarian dropsy. In this, as in all the others, the means for effecting the absorption of it were united with those which are suited to abate or remove its cause. The complaint had been regarded as incurable, and treated with palliatives, and wine and other fermented liquors had been allowed, and even their use enjoined, with the result of increasing the disease. When these injurious means were laid aside, and the antiphlogistic course adopted, the disease was at once arrested, and the accumulated fluid removed without the aid of tapping. The return of the effusion, which took place after some months of convalescence, although greatly to be regretted, proved the power of the former means to remove it, as it did the importance of the preventive regimen, which, so long as it was followed, arrested the disease, and when neglected, was succeeded by an aggravation of it, and by a renewal of the effusion, and this in its turn by the death, as I learnt, of the patient.

The twelfth case is another example of ovarian dropsy, but differing from the last in having come

under treatment before it had advanced to that degree of distension in which an operation would be required, and by its yielding to the means employed without the operation ever becoming necessary; the lady having now, during ten years, continued wholly free from her disease.

The thirteenth case presents a striking example of an ovarian disease, with the gradual effusion attending it, and, at the same time, a no less striking proof of the great efficiency of the antiphlogistic plan of treatment for the permanent removal and cure of both. It is communicated to me by my friend Mr. M. W. Jackson, of Stamford, whom I had the pleasure of meeting in consultation on the sixth case, and who, it will be seen, reports his success in other cases of ovarian disease.

Case 1.

OF DROPSY OF THE CHEST.

[Communicated by Mr. White.]

To the Editor of the Lancet.

Sir, — I beg to offer to your readers the following case, as serving to illustrate, very forcibly, the truth of the pathological principles inculcated by Dr. Ayre in his work on Dropsy, and as proving the important relief which may be afforded, even

in the worst cases of that disease, by pursuing the treatment recommended by him. Mrs. W., aged 58, a tradesman's wife, of Theobald's Road, after having been for some time an invalid, came under the care of myself and an eminent consulting surgeon. The symptoms under which she laboured were uneasy sensations in the region of the heart, with frequent palpitation; difficulty of breathing, especially under the least exertion; inability to lie down in bed; startling dreams; troublesome cough, with mucous expectoration; dropsical swellings of the trunk and lower extremities, and a very scanty secretion of urine. The treatment had recourse to consisted chiefly in the use of diuretics, with an occasional dose of elaterium as a drastic purgative, and an allowance of a nourishing diet, and gin and water as an occasional beverage. The disease continued to increase, until at length the symptoms of hydrothorax had acquired their most intense form; when the patient spent her nights chiefly in her chair, or wholly upright in bed, though so great was the swelling of the thighs, that even sitting upright was difficult to her. The gentleman who had attended her with me at length declared to the friends of the patient, that the case was a hopeless one, and advised that nothing but palliatives should be in future employed; and accordingly withdrew his attendance. After a short interval I met Dr. Ayre, on the 1st of August, in consultation, when eight ounces of blood were directed to be drawn from the left side of the chest by

cupping: a pill composed of squill and digitalis was to be taken every four hours, with a grain of calomel nightly, and a drastic purge of gamboge in the morning; and an account was directed to be kept of the quantity of water passed. The following is the report of the effects produced: —

August 3d. The drastic purge acted well, and without inconvenience, producing very watery evacuations. Urine, two pints. Only five ounces of blood were taken, as the cupper, in my absence, expressed his surprise at the operation being ordered when there was such debility, and alarmed the patient. The patient, nevertheless, felt somewhat relieved. The medicine to be continued, with a cold lotion to the legs, and a cupping to six ounces of blood to be repeated.

5th. Six ounces were taken; has felt further relief, and is able to recline somewhat in bed; the countenance and hands have less of the purple appearance, and the legs and thighs are less swelled; the urine amounts to three pints, and the purgative brought away nearly three quarts of water by stool. The same treatment to be continued; eight leeches to be applied to the chest.

7th. The purgative has again acted well; the urine three pints: the patient felt herself greatly relieved in all her urgent symptoms, particularly in her breathing; can sleep in nearly the recumbent posture; the swellings also in her thighs are so much decreased, that she can place one over the other, and sit upright, and turn in bed; the pulse

is now more regular and soft; the cough nearly gone. The treatment to be continued, with eight leeches to the chest.

11th. Has continued to improve in all her symptoms; can lie down without inconvenience; the swellings have wholly left the upper parts of the thighs and trunk; urine very abundant. The medicines continued; a blister to be applied to the left side of the chest, and another, after two days, to the sternum.

17th. Has been quite free from her habitual difficulty of breathing during the last few days; but has, in that time, had an occasional attack of asthma, to which, in former years, she was subject, and which was relieved by an ether draught.

22d. Has continued to improve in her general appearance and strength; water, upwards of three pints daily; can lie down and sleep in the recumbent posture, so that her husband, on going into her room, was alarmed on finding her asleep in so unusual a posture, with her breathing inaudible. The swellings of her limbs continued rapidly to decrease, aided by the use of oil silk stockings, though the uneasiness in the region of the heart, with occasional palpitation, continued. From this time the patient progressively improved, and became able to walk down stairs, and engage in some of the lighter concerns of her family. She discontinued the use of her former medicines, taking only an occasional aperient, and at her own discretion. Dr. Ayre did not see her for several

weeks, and I paid her only an occasional visit. At length an accidental cold which she took renewed her cough and difficulty of breathing, and the other unfavourable symptoms, when Dr. Ayre was again consulted; but the patient having resisted his order, as she had done mine several days before, to be cupped, she rapidly became worse, and expired suddenly the following night. The examination of the body the next day exhibited the appearances expected. There were traces of former and long-continued inflammation; the heart was extremely softened, the muscular fibres being torn or divided by the slightest effort. The aorta, at its junction with the heart, was greatly ossified, and a small sac was formed from it, constituting an incipient aneurism. There were two pints of water in each cavity of the chest, and an unusual quantity in the pericardium, which, as well as the other serous tissues of the chest, were greatly thickened, and united by preternatural adhesions. The lungs were sound, but gorged with a serous effusion.

From the foregoing statement of facts, we may, I think, assume, with Dr. Ayre, that these effusions into the chest are the *effects* of inflammation, and that the urgent symptoms in the above case were not so much depending upon the actual disease, as upon the effusion which resulted from it; and that, therefore, besides using the means to remove the effused fluid, we must apply ourselves to remove also the inflammation which causes it; and that the above case, like the one you published last week,

from Dr. Ayre's work, proves that, even in the worst cases, we need not despair of success.

I am, Sir,
Your obedient servant,
EDWARD WHITE.

Red Lion Street, Holborn,
12th July, 1830.

CASE 2.*

DROPSY OF THE CHEST AND BODY, WITH ANASARCA.

IN March 1826, I was requested to meet Sir Peter M'Gregor in consultation on the case of a gentleman of the commander-in-chief's office, whom he had attended for some time, and who was labouring under a dropsy of the chest and body, and an anasarcous state of the legs and thighs. The patient was 57 years of age, of a corpulent habit, and had mixed much in society, and partaken in the usual pleasures of the table. During the previous two years he had been affected with

* The reader will not fail to observe, that some of the patients referred to by the author resided in London, whilst others lived in the country. It may be, therefore, necessary to state, in explanation of these circumstances, that after a sixteen years' residence at Hull, the author removed to the metropolis, where he practised several years, until 1830, when, after nearly a twelvemonth's severe indisposition, which the air of London materially prolonged, he was compelled to resume his practice in the country, where, he is thankful to add, he has regained his health.

several premonitory signs of his disease. His feet and ankles had generally swelled towards evening, and only partially lessened in a morning; and his breathing became short upon attempting to walk quickly, or on ascending a stair. Whenever he took cold, his breathing became affected, being troubled sometimes with a severe cough, when he was obliged at these times to lie in bed with his head and shoulders raised. In some of these attacks he had been bled, with partial relief, and latterly he had taken less wine than usual. The habitual difficulty of breathing had, however, continued to increase, and exercise on foot had nearly become impracticable with him. About a fortnight before my seeing him, his complaints had become greatly aggravated, particularly his difficulty of breathing, and the dropsical swellings had now extended to the whole of the lower limbs. The following are the symptoms under which I found him labouring: — A great sense of tightness in the chest; the breathing habitually difficult, so as quite to preclude his lying down; the countenance of a purplish hue, particularly the lips; the mind at times slightly wandering; the body considerably enlarged, and yielding a distinct feeling of fluctuation; the pulse about 90, and intermitting; the bowels torpid; the urine very scanty; some thirst, and the appetite almost gone. He had likewise a tickling cough, with a mucous expectoration. His nights were passed in a nearly sitting posture, and his sleep was disturbed by terrifying dreams.

The lower limbs were greatly swelled, and the legs were peculiarly hard, and inflamed on their surface. I found him in fact labouring under the complicated forms of dropsy of the chest and belly, with an anasarcous swelling of the lower extremities; and so alarming was his state, that a fear had been expressed to the patient's friends of his not surviving many days.

From the history above given, which I procured of this gentleman's disease, and of the causes which produced, or increased it, there was, to my judgment, a satisfactory proof of the existence of inflammation in the serous tissues of the chest and body, and a slow effusion, as the consequence, going on into these cavities; but, at the same time, it seemed probable, that if the patient could outlive the immediate effects of the fluid already effused into the chest, that means might be used to prevent any farther effusion; whilst the water already collected might be removed by a proper course of medicine. The inflammatory action was the true disease, the effusion of water being its effect; and although this effect was the main cause of the imminent danger, yet the increase or continuance of the cause, as leading to an increase in the effusion, was the primary object to be attended to. There was, however, another point for consideration, as affecting our prognosis, namely, whether the inflammatory action set up in the serous tissues, and producing an effusion, was itself an effect of a structural disease previously subsisting in that or a

neighbouring part, or independently of it. Were it the former, the difficulty in the cure would be increased, and the convalescence in a measure be rendered incomplete; if the latter, as it proved to be, the danger might be imminent, and the recovery slow; yet the restoration to health could be rendered permanent. We began our treatment by having twelve ounces of blood taken from the chest by cupping, to be followed by a blister on the breast, and a drastic purgative to be taken, and afterwards some diuretic medicine every three hours; the patient's diet to be vegetable, and he was to abstain wholly from the use of wine and other fermented liquors.

At our visit the following day, we found that some slight relief had been afforded by the cupping, and that the pulse was somewhat softer. In other respects, the symptoms remained the same. A second cupping was ordered, and the other means to be continued.

At our next visit we learned that the tightness about the chest was sensibly lessened, and that he could breathe more deeply. The other symptoms as before. The drastic purgative was to be repeated, and the other medicines continued.

On the following day we found the countenance of a more natural appearance and colour, and the urgent symptoms generally to be lessened. The drastic purgative had answered well, and procured some watery evacuations.

In the course of the following three days the

cupping was repeated, and with farther relief, and the quantity of the urine was somewhat increased.

In the course of the succeeding week, our patient was again cupped to the extent of eight ounces; the drastic purgative was repeated twice, and the other means continued — occasioning the urine to become increased in quantity, and the breathing so improved that the patient was enabled to lie in a somewhat recumbent posture.

During the following week he was again cupped, and occasionally a drastic purgative was given, and the same treatment, under a slight variation, continued. The urine became abundant, the breathing more free and the body much lessened, and the fluctuation no longer perceivable. In the next ten days there was again a cupping of eight ounces, and a purgative dose of the super-tartrite of potash given each morning. Notwithstanding these evacuations, the patient's strength had not declined, and he had in all other respects greatly improved. In the course of the following ten days, the patient underwent a slight relapse from an accidental exposure to cold, and he was twice cupped during that time, and a blister was applied to the chest. The cough and difficulty of breathing readily yielded to these means, and he progressively advanced in his recovery.

During the following fortnight, he was cupped once at the back of his neck, with the full effect of removing some fulness about the head, as shown by a great degree of drowsiness, and an evident

failure in his judgment and memory. Wine had been suggested and tried, on the supposition of these symptoms arising from debility, but with evident injury, and they only yielded after having recourse to the cupping.

From this period our patient progressively improved, and he was only cupped once during the succeeding three weeks, and this chiefly as a precautionary measure. All appearance of the dropsy, either of the chest or body, had entirely disappeared. The swellings of the thighs also had yielded to the use of the general means: but the legs, from the knees downward, continued large, and they retained their great hardness and erisipelatous redness.

Our patient was told that this swelling arose from debility, and would subside as he regained his strength. They had, however, swelled when his strength was entire; and his feet and ankles had been enlarged during the preceding two years; and the swelling of the thighs, which had occurred in common with those of the legs, had subsided in common with the effusion into the cavities, by means of cupping and the other evacuant measures; nor was the patient weaker at the end of ten weeks than he had been at the commencement of this treatment. Bandaging was suggested. By many, puncturing the swelled limbs, to let out the fluid, would have been adopted, to be followed, perhaps, and most probably, as I have several times witnessed, by inflammation and gangrene of the parts. The swelled state of the legs depended in this, as in

the other cases, upon the presence of inflammation in the cellular tissue, but was too local to yield to any thing but a local treatment. This method became, therefore, necessary; and Sir Peter M^cGregor did me the honour to watch with assiduous attention, the effect of the treatment which I proposed for its cure. This treatment consisted in keeping the legs constantly wet with a cold evaporating lotion, applied by means of a strip of muslin. We had the girth of the legs measured before commencing with the plan. At the end of the first twenty-four hours there was no perceptible decrease of the swelling. At the end of the second day a decrease was produced, and on each succeeding day a progressive lessening and softening of the enlarged limbs ensued. At the end of a fortnight the legs had entirely recovered their former natural size and softness, and *after three years they still retain* them. On two or three occasions, indeed, a temporary swelling of them has occurred, accompanying a recurrence of the pectoral attack; but they both yielded readily to the treatment respectively employed before for them. Of the patient's state generally, it is gratifying to add, that, since the period when he first recovered, he has continued, with the exception of these slight and temporary relapses, to improve into a state of health that may be termed robust, and that for several months past he has continued free from every trace of his former disease, having taken at times much active exercise on foot, frequented

freely the places of public amusement, and mixed in the evening parties of his friends. And although for a period of forty years he had been accustomed to the daily use of wine, he has for the last three years entirely abandoned it, and enjoys his health and strength, and an undiminished flow of spirits, with no other beverage than water.

Case 8.

DROPSY OF THE CHEST AND BODY.

Mrs. R., of Castle Street, Strand, seventy years of age, labours under great difficulty of breathing, and is quite unable to lie down in bed, and generally spends her nights sitting in a chair; has a severe cough, with a mucous expectoration; starts greatly in her sleep from terrifying dreams; body very much enlarged, and yielding a sense of fluctuation; legs and thighs greatly swelled; urine about a quarter of a pint in the twenty-four hours; no appetite; pulse intermitting, and strong; much thirst; has been affected with these symptoms during several weeks, but latterly been much worse; has been under medical treatment, and been allowed wine and other fermented liquors.

Is to have leeches applied to her left side; small doses of calomel and diuretic medicines, and a blister, after six hours, to the chest; to abstain from all fermented liquors, and to use a vegetable

diet. In the course of four days, during which the leeches were renewed, and a drastic purgative was given, the severer symptoms subsided, and she became able to lie down lower in bed. The leeching was again renewed, and an evaporating lotion was ordered for the legs. The urine shortly amounted to four and five, and on one occasion to six pints in the twenty-four hours, and the body and limbs rapidly diminished. In the course of a fortnight she became able to lie perfectly low with her head in bed; the breathing became free, and the cough almost wholly removed. The calomel, which was given in a very minute dose, affected the mouth with a slight soreness: upon this subsiding she became quite well, and free from every symptom of dropsy.

Case 4.

DROPSY OF THE CHEST, AND ANASARCA.

On the 5th of October 1828, I was requested by my friend, Mr. Lambert, of Dean Street, Soho, to visit with him a Mr. W., a respectable hotel-keeper, of about sixty years of age, who was labouring under a dropsy of the chest, and a dropsical swelling of the limbs. The following were his symptoms: An habitual difficulty of breathing, attended by a severe cough, and with an inability to lie down in bed, or on either of his sides. His

cough is considerably worse during the night, and upon making the least change in his posture, and attended with only a trifling mucous expectoration. His nights are passed by him in a nearly sitting posture, and his sleep is disturbed by terrifying dreams. The pulse is forcible and intermitting; the bowels costive; the appetite much impaired; some thirst, and the urine high coloured, and very scanty. The lower extremities are greatly swelled, and the thighs pit deeply on pressure, whilst the legs are swelled and hard, and a good deal inflamed. These complaints commenced about three months since, and have progressively increased during the last five or six weeks; has been for some time under the medical treatment of a consulting surgeon, and had been bled twice with slight relief. Latterly, he had been ordered by him to the sea-side for change of air, and was allowed gin punch and brandy and water, as an occasional drink. He was also permitted to continue the use of his wine.

He was now directed to lose twelve ounces of blood from the chest by cupping, to apply a blister to the chest, to take some diuretic medicines and use an evaporating lotion to the legs, and to abstain from the use of all fermented liquors.

Visited him again on the 7th, and found him somewhat relieved; had been able to lie rather lower in bed, having only five pillows to prop him up, and his breathing and cough are something better. A second cupping ordered to the amount

of eight ounces, and the medicines to be continued.

Visited him again on the 9th. The difficulty in the breathing and the cough were now so much relieved, that he could sleep with only three pillows, and could now lie on either of his sides without any aggravation of his symptoms. The swelling had left the thighs, and decreased in the legs. Was ordered a drastic purgative, and the other medicines to be continued.

12th. The dyspnœa, and other symptoms of water in the chest, had now become so much removed, that he was able to lie with his head quite low, using only one pillow; and he made a trial before us of lying not only on each of his sides, but *even recumbent* on his face, and without either hurrying his breathing or exciting his cough.

Saw him again on the 20th. The legs had now recovered their natural size and softness, and no part of them pitted on making pressure. The evacuation by the kidneys had become abundant, the appetite natural, and the sleep uninterrupted through the night.

Saw him on the 23rd, and learnt that he had suffered a slight relapse by an imprudent exposure to cold, that his cough and dyspnœa had returned, and that his legs had again become swelled. His urine had become less free, and was deep-coloured. Had also taken a glass of wine daily, contrary to orders. Had applied a blister to the breast, which was still sore. Was ordered to be cupped between

the shoulders to twelve ounces, and to repeat the drastic purgatives; to continue the other means, and to be diligent in the use of the evaporating lotion to the legs; to abstain entirely from all fermented liquors, and to confine himself to his bedroom.

25th. Was cupped to twelve ounces, and was much relieved in his breathing. Was able to lie quite flat in bed, and his legs had again become of their natural size, and free from all inflammation. The urine passed each twenty-four hours amounted to nearly seven pints.

27th. Had passed good nights, and slept in the recumbent posture. The urine continued abundant; appetite quite good; the breathing quite free; the legs of their natural size. Had persevered in his disuse of wine, and kept his room. The drastic purgative ordered to be repeated, with the other medicines; the lotion to be omitted.

29th. Cough gone; breathing quite free; the nights quite good; legs had continued of their natural size; water plentiful, and the other functions healthy.

Case 5.

DROPSY OF THE BODY, AND ANASARCA.

Mrs. D——, aged above 40. Saw this lady with Mr. Raines, of the Edgeware Road. Found her in bed, and complaining of much pain in the

loins, which an attendant was supporting. The body was considerably swelled, and yielded a distinct sense of fluctuation. The legs and thighs were greatly swelled, and pitting upon pressure; the appetite extinguished; much thirst; water very high-coloured, thick, and scarcely amounting to a quarter of a pint in the twenty-four hours; nights exceedingly restless; pulse 90. I attended her about two years ago, when labouring under pain of her side, and a very deep jaundice. She has been an invalid since that time; but it was not until a fortnight since that the body began to swell. Her habits have been intemperate. Twelve leeches were ordered to the body, and to be followed by a blister, with the use of diuretic medicines; to abstain from stimulants, with a low diet.

Second day. Found her relieved by the means ordered; pain of the back gone; stomach less distended; urine slightly increased; slept better; leeching to be repeated.

Fourth day. Continues to improve slightly; leeching to be repeated; appetite still bad.

Sixth day. Body decidedly lessened; urine increased; appetite still bad.

Eighth day. Farther improvement; leeching renewed.

Tenth day. No fluctuation perceptible; in every way greatly improved.

My visits were now discontinued, and the means were shortly afterwards given up.

Was called in, about a month after, to see her again, and found that, upon discontinuing the means, and returning to former habits, the body had begun again to swell, and had now become very considerably distended: the legs and thighs were also greatly swelled. In a few days, she consented to be tapped; and three and a half gallons of straw-coloured fluid were drawn off. Eight leeches were applied to the body, a few hours after the operation, and the former medicines were resumed. In a few days the leeches were resumed. The swellings of the legs decreased, and the urine had become plentiful; when, at this time, the patient was seized with a severe attack of the gout, to which she was very subject: the disease was severe, and an exclusive attention was required to be paid to it. The treatment for the dropsy was suspended; and, leaving to my friend the management of her gouty complaint, I was not required to see her until the end of a fortnight; when I found that the body had again begun to swell, and had already become considerably distended, and yielding, when struck, a very distinct sense of fluctuation. The means formerly used were again resorted to; and, with an attention on the part of the patient to the injunctions imposed on her, that was quite satisfactory. During the succeeding month, the body was gradually reduced to its natural size; and the urine that was passed amounted, during the time the body was decreasing, to four and five pints in the twenty-four hours. From this

period, she continued free from the dropsical complaint; and, two years afterwards, I had the satisfaction to see her in sufficient health and strength to nurse and attend her husband through a long and fatal disease.

Case 6.

DROPSY OF THE CHEST AND BODY, WITH ANASARCA.

Was called to attend P. J——, Esq., of Riston Grange, near Beverley, in company with my friend Mr. Williams, of the latter place. The patient was 70 years of age. I found him labouring under general dropsy, the legs and thighs being very greatly enlarged, and pitting deeply when pressed; the body was considerably distended, and yielded a sense of fluctuation; the breathing was very laborious, and the patient was wholly unable to lie down, spending his nights in his chair: he had also some cough; sleep much disturbed with frightful dreams; urine excessively scanty; bowels confined; skin of a yellow hue; pulse strong; much thirst; appetite greatly impaired. Had been labouring under these symptoms during several months; but latterly they had become greatly aggravated. I directed leeches to be applied freely, and in successive times, to his right side, and afterwards a blister, where there appeared some hardness and tenderness on pressure. Some active

doses of gamboge, at intervals, were given, with diuretics and minute doses of calomel; whilst an abstinence from animal diet and all fermented liquors was enjoined. The effect of these means was slow; but enough was produced, and sufficiently early, in the way of relief, to encourage to perseverance. I saw my patient twice a week; and, in the interval, he was seen and the treatment ably followed up by Mr. Williams. The symptoms of the disease gradually subsided; and, at length, our patient became enabled to lie flat in bed, and the body and limbs resumed their natural size:—all the appearances of dropsy disappeared, and *never returned.* The age of our patient, and the state of disease in which the liver was, and which was readily discovered after the body became small by the removal of the water, precluded his entire recovery; and accordingly, after a few months of limited convalescence, in which he was able to get out and ride round his fields, he began to show signs of renewed disorder; and after struggling through several months, he at length sank under it. He had, however, no symptoms of dropsy during the many weeks he was declining; and it was only a day or two before his decease that the difficulty of his breathing denoted some return of the effusion into his chest. No examination of the body took place.

Case 7.

DROPSY OF THE CHEST, AND ANASARCA.

In November, 1826, I was consulted by a gentleman from Manchester, who was labouring under an anasarcous state of the feet and ankles, extending sometimes to the knees, and with the ordinary symptoms of effusion into the cavity of the chest. The patient was between fifty and sixty years of age, of a full habit, and had been accustomed for several years to indulge in what are termed the pleasures of the table. At the time of his consulting me, his countenance was highly florid, and inclining to the purple hue. He complained of a tightness in his chest, and an inability to lie recumbent in bed, having disturbed dreams, which awoke him suddenly. His breathing was habitually short, but aggravated by exercise, or on ascending a height. He had some cough. His urine was scanty; the pulse of unnatural strength; and the bowels torpid. His complaints had been gradually coming on during the preceding two years, and particularly the swelling about his ankles. He had taken medicines at various times, and latterly had taken less wine or other fermented liquors.

The case was one of increased action in the serous tissues of the chest, brought on by too great vascular fulness in the system, and a too highly stimulant mode of living, as favouring the produc-

tion of that fulness, and rendering it of more evil effect when so produced. There was an inflammatory action in the membranes lining the chest, and a corresponding action in the cellular tissue of the legs. The plan of treatment to be pursued consisted in removing this fulness, and in subduing the excited action of the parts implicated in the disease. Eight ounces of blood were ordered to be drawn from the chest by cupping, and afterwards a blister to be applied there. A total abstinence from fermented liquors, and a plain and spare diet were ordered, together with some diuretic medicines, and an occasional drastic purgative. He was relieved by these means, and after a few days he returned into the country, with directions to lose a farther quantity of blood from his chest. By pursuing these instructions he gradually lost the several symptoms of which he complained. At the expiration of something more than a twelvemonth, my patient called to inform me of his having recently had a relapse of his complaints, and, as it appeared, through some neglect of the regimen enjoined him. Cupping and the other parts of the treatment again became necessary. He again became relieved, and returned into the country; and by a more strict attention to regimen, the renewal of his dropsical symptoms was permanently prevented. Such, however, was the tendency in this gentleman to vascular fulness, that, notwithstanding the very considerable attention bestowed by himself on his general management, he still

became subject to its attacks. The particular point, however, to which it was directed, underwent a change, and the disease thence resulting was altered. He was no longer subject to dropsy; his breathing remained free, and the ankles did not swell; but the head became affected, and he was threatened with an apoplectic complaint. This change took place about six months ago, when he first began to be sensible of too great fulness about the head, and an unusual weakness in the knees, with an occasional and temporary loss of consciousness.

In this case there has been a translation of the disease from the chest to the head, the same tendency exerting an undue action from vascular fulness, the precise point of attack being changed, and this change being dependent upon some slight causes, inherent in the system, or superinduced upon it by accidental causes. The importance of the organ now implicated in disease, over the one previously the seat of it, has made a much more active means, and a more steady attention to regimen necessary than had been before employed; and I had the pleasure to find that the disease within the head, as it arose from the same causes as that of the chest, so it yielded to the same plan of treatment, and my patient is now convalescent, being entirely free from his former disease of dropsy, and apparently from any tendency to it; whilst this secondary affection has given way, as the first did, to local depletion and an abstemious regimen.

Case 8.

DROPSY OF THE BODY, WITH ANASARCA.

Miss R——, residing in Lincolnshire, came, about eighteen months since, into lodgings in this town, to place herself under my care for an enlargement of the body, accompanied with a distinct feeling of fluctuation. This enlargement had been gradually increasing during the previous year; and latterly there had been added to it a considerable degree of dropsy of the lower limbs, with much pain and stiffness in one of them. There was no hardness of the body perceptible, nor any uneasiness produced by pressure. The urine was very scanty, and the bowels much confined. Had been under medical treatment during nearly all the time, and felt most relief from those medicines which acted freely on the bowels. Had been allowed the use of wine and porter.

The same general treatment was now directed for her as for the several patients whose cases have been already detailed. She remained under my care during the space of a month, when she returned into the country, with the dropsy of her body and limbs wholly removed, and apparently in good health; but with the injunction to come over to see me in the course of a week or two. Feeling and believing herself to be quite cured, she neglected to do so, as well as to follow the preventive

regimen which was ordered for her. It was not until eighteen months after parting from her, that I again saw her; when she came over to consult me about the state of her body, which I found had begun to enlarge again some months after her return home. The swelling, however, was not at this time from water, but arose from an enlargement of the spleen, and to the degree of nearly filling, and greatly distending, the body by its bulk. There was scarcely a sign of any effusion into the body, and none into the limbs. These and the other circumstances relating to the course of the disease, and the result of the treatment, showed that the inflammation on the surface of the serous membranes had been removed, and had not been renewed; whilst the disease of the spleen, which had been a remote cause of the inflammation in its serous envelope, had survived the removal of the latter, and had gradually proceeded through the organ, favoured as it was by the stimulant and tonic regimen, she had been unwisely recommended to adopt.

Case 9.

OVARIAN DROPSY.

[Communicated by Mr. Morgan.]

To the Editor of the Lancet.

Sir, — Will you do me the favour to publish in your widely circulated journal, the history of a

case of ovarian dropsy, successfully treated lately under my care? Perhaps you will deem it more worthy of insertion, as in Dr. Johnson's Quarterly Journal for April, the critic, who reviews Dr. Ayre's excellent practical work on dropsy, hesitated to admit the practicability of removing ovarian dropsy by the plan laid down by Dr. A.

I remain

Your obedient humble servant,

M. JONES MORGAN, Surgeon.

Corsham, August, 1826.

Sarah Cole, ætat. 22. (laundry-maid in a gentleman's family in this neighbourhood), of a sanguineous temperament, tall, and of a slender form, called to consult me on the 8th December, 1825.

I found the abdomen large, as in the ninth month of pregnancy. She informed me that about the month of May, 1824, she felt a small swelling, nearly the size of a cocoa-nut, in the right side of her belly, a little above the groin. It gradually increased in size, and at the expiration of twelve months the tumour was considerable, but still confined to the lower belly, and she was not yet larger round the waist. For the last seven or eight months, she has increased in size more rapidly, and now measures forty inches in circumference. The integuments of the abdomen are extremely tense, and the fluctuation is as distinct as ever I felt it in ascites. Her general health is good, and the only inconvenience she feels is the large bulk of the

abdomen. She has not hitherto consulted any medical man, nor taken medicine of any kind. I wish also to add, she is a very steady girl, and enjoys the good opinion of the very respectable family she lives with; and I have myself noticed her size for the greater part of the time she has been ailing, though I did not speak to her on the subject. The catamenia left her for the first three months of her attack, since which she has been perfectly regular. I bled her in the arm, and prescribed

℞ Hydrar. Submuriatis, gr. v.
Cambogiæ Pulveris, gr. iij.
Scillæ Rad. gr. ij.
Conf. q. s. ft. pil. hora somni sumendæ.

℞ Potassæ Supertartratis, ʒ ij.
Pulv. Jalapæ, gr. x.
Pulv. Zingib. gr. v.
M. ft. pulvis mane sumendus.

After which she took the following daily, until the 21st of December: —

℞ Hydr. Submuriatis, gr. x.
Cambogiæ Pulv. ℈j.
Pulv. Scillæ, gr. xv.
—— Digital. gr. viij.
M. ft. pil. No. x. sumat j. nocte manea.

℞ Potass. Supertart. ʒij.
Pulv. Zing. gr. v.
Ft. pulv. meridie sumendus.

The medicines acted freely on the bowels, but without any diminution of the swelling.

January 10. 1826, directed her to take

℞ Hydr. Submur. gr. vj.
Solve in Æther. Nitric. ʒj. deinde add,
R. Digitalis,
— Scillæ, āā ʒss.
Misce, capt. cochl. j. misc. in cyatho infusi genistæ bis quotidie.

℞ Potass. Supertart. ʒij.
Cambogiæ Pulv. gr. iij.
Pulv. Scillæ, gr. iss.
—— Jalap. gr. xv.
Ft. pulv. 4tis horis sumendus; and to rub over the abdomen a camphorated mercurial liniment every night and morning.

She continued these medicines long enough to give them a fair trial, and also to occasion a slight salivation, but still without any perceptible amendment.

On Wednesday, March 22. I consulted an eminent physician (Dr. Sainsbury) of this place, who directed her to be immediately bled in the arm to ʒxvj.; and to give her, —

℞ Hydr. Submur. gr. iv.
Cambogiæ Pulv. gr. iij.
Scillæ Rad. Pulv. gr. ij.
Jalap. Rad. Pulv. gr. xv.
Ol. Juniperi, gr. ij.
Syrup. q. s. ft. pil. vj. capt. iij. hora somni et iij. mane sequenti.

The pills made her very sick, and acted copiously on the bowels.

On Saturday 25th, she was directed to be bled again to ʒxvj.; to take four of the cathartic pills every third morning.

℞ Tinct. Scillæ,
—— Digital. āā ʒiij.
Spt. Æther. Nitric. ʒvj.
M. capt. cochl. i. minim. bis quotidie.

On the following Tuesday morning (28th) she began to pass immense quantities of water, which continued until Thursday evening (30th), when she became as thin as ever; and has enjoyed excellent health and natural size to this day, 11th August 1826.

Case 10.

OVARIAN DROPSY.

In March, 1827, I was requested by Mr. Pater, surgeon, of the Commercial Road, to visit with him, in his neighbourhood, a lady who had recently come up from the country, labouring under an *ovarian dropsy*. She had already been tapped three times in the course of two years, and had come up to town from a distant county to undergo the operation for the fourth time, and which was performed by Sir Astley Cooper a few days previous to my seeing her. The history given me of

the origin and progress of the disease, corresponded in most of the particulars with what is met with in others. There had been, from the commencement of the complaint, a certain degree of uneasiness in the iliac region, accompanied by much bearing down, which was greatly increased by walking exercise, or by any continued standing. There was also a considerable degree of muscular debility, and much tendency to fainting, and a general inability for exertion. The refilling after each operation had been gradual, and nothing untoward had occurred after any of them. The fluid discharged had been considerable, and colourless. On examining the patient's body, there was no uneasiness felt upon making pressure, and the punctured wound of the operation had healed. There was much complaint of debility, and the pulse was feeble and frequent. The bowels were prone to become confined, the appetite was small, and the urine somewhat scanty. The lady's age was about forty, and she had had several children previous to the attack of her disease. The case was evidently one of ovarian dropsy, a disease which the profession are prone to regard as incurable, and which is ordinarily abandoned as such; the only means ever attempted for its relief being palliatives to abate its inconveniences, and the operation of tapping to remove its fluid. That it is curable, under its milder and incipient forms, is a fact that I had ascertained from my own experience; and though the disease in this case was of some standing, and four

successive operations of tapping had been performed, it was no unreasonable presumption to conclude, that the same means which proved successful in the less-protracted cases, would, if actively pursued, be of service in this. A sac, indeed, of considerable size, and, consequently, a considerable extent of secreting surface, had been formed, and which, after each preceding operation, had acquired, as an effect of it, an increased disposition to pour out the dropsical fluid. The clear indication of treatment was to repress or prevent that increased action of the secreting surface by which the water was effused. To this end all the means were to be employed that could in any way contribute to it. One purpose was to prevent all irritation in the diseased part; the second was to obviate the effects of any irritation that might naturally or incidentally arise. For the first object, the patient was directed, for the present, to recline much upon the sofa, and abstain from walking exercise, and avoid all unnecessary pressure on the body. The diet was to be plain, and little stimulant, and diuretics were to be taken as medicine. To this plan was united the means of correcting that inflammatory irritation which succeeded the former operations, and by which the fluid would be effused. The feeble state of the patient, and the considerable effect which all debilitating means produced in her, rendered any active means inadmissible, and apparently unnecessary. Much, it appeared to me, might be accomplished in this case by the

use of moderate evacuations, frequently repeated; and as the disease was purely local, that local evacuations would be most useful, and might be of a less amount, because of their being local. Leeching and blistering the abdomen were the means which offered; and I directed, therefore, that three leeches should be applied to it every third or fourth day, and a blister of one square inch and a half in size be likewise applied in the same manner. Our patient remained in town for some weeks afterwards, and diligently persevered in this plan, and without sustaining any particular inconvenience from it. The effect was such as I had hoped for; the body did not enlarge, and the disease was clearly arrested. The lady had now to return to her home, and to undergo the fatigue and risk of a journey, in which more or less of irritation might be expected. She reached her home without apparently suffering from the journey, and immediately resumed her course of treatment and regimen. She communicated with me from time to time by letters. The treatment by leeching and blistering was persevered in with comparatively little inconvenience; the small number of only two or three leeches which were applied, and the minuteness of the blisters, rendered them too inconsiderable to produce either much weakness or much pain. For several months this treatment was uninterruptedly continued; for the success which attended it, and the fear of a failure, encouraged to perseverance. Before the expiration of the first year after com-

mencing this treatment, there were occasional interruptions to it, and some changes were made in the medicinal part of the plan, and in the regimen, particularly in allowing a small portion of wine daily, and in the patient undertaking some of the more active duties of her household. There were also some fears entertained, once or twice, of the disease being about to return; but the symptoms were simply those of a disordered digestion, and constipated bowels, and subsided under the plan of treatment suited to those states. *Two years* have now elapsed since the operation, and there has been no return of the dropsy; and as it is now many months since my patient wholly discontinued the leeching and blistering, there is the fairest grounds for concluding that the disease has yielded to the treatment, and that the admirable perseverance of my intelligent patient has been rewarded by a permanent cure.

Case 11.

OVARIAN DROPSY.

Mrs. W——, a lady between 50 and 60 years of age, and residing, when at home, in the neighbourhood of Stamford, complains of suffering from considerable pain in each groin, and in the sides of her body. There is a very distinct sense of fluctuation of water in the abdomen, which is very

greatly distended. She is unable to take any walking exercise, and turns with difficulty in bed, from the great size of her body; is much reduced in flesh, and the appetite is bad; the urine somewhat scanty, and the bowels costive; has been an invalid for some years; and, about a twelvemonth since, first perceived a swelling of the size of an egg on each side at the lowest part of the body, and attended with a pain that extended to the groins. These swellings continued to enlarge, until about six months ago, when they gradually disappeared, and were succeeded by a progressive enlargement of the body. During the time that the body was swelling, had much pain on the right side below the ribs, and great general indisposition and restlessness; was under medical treatment during the whole time, and was permitted to take wine and spirits, and was told that her dropsy was incurable.

Twelve leeches to be applied to the body, and a small blister to the side, which is to be kept open by savine ointment; a small dose of calomel nightly, and pills of squill and digitalis, with a drink of the infusion of taraxacum *ad libitum*. The body to be measured, and a register to be kept.

The following day it was found that relief had been afforded to the pain by the leeching and blister: in other respects as before. The following are the reports, which I minuted down in the order they are here given:—

Fourth day. No material change since the last report. A second blister to be opened on the opposite side; repeat the leeching.

Eighth day. No sensible change, excepting in having less pain, and being able to move better about.

Twelfth day. Secretion of the kidneys somewhat increased; pain of the left groin nearly gone; body somewhat lessened, and the general feeling improved; the pain in the right side lessened. Repeat the leeching.

Sixteenth day. The mouth has become slightly sore; the body is sensibly lessened; the pains nearly gone; has walked a mile and a half without inconvenience; the body continues to decrease, but the patient complains of some uneasiness at the fore and lower part of it. Repeat the leeching. To have a drastic purge.

Twentieth day. Body continues to decrease, and measures five or six inches less round; the urine much increased; can move about with great facility.

Twenty-fourth day. The size of the body is rapidly decreasing, and the appearances give promise of a speedy and entire removal of the water from it. From this time the recovery of the patient continued to advance; and, at the expiration of the seventh week, the report is, that the body is nearly reduced to its natural size, and the fluctuation can no longer be felt; the health and strength are greatly improved, and there

is no pain; the appetite and other functions are natural.

Shortly after this last report, the patient returned home, with the strict injunction to continue the low regimen, and other preventive means, that she had been hitherto pursuing, and especially to abstain from all fatiguing exercise, and to have recourse to the use of leeches and the blistering upon the occurrences of pain in the body. These precautions were, in many particulars, neglected; and, in the course of a few months, I was again consulted, by letter, concerning her. Means similar to those before employed were again directed for her, and, to a certain extent, with success. After some time, I was again written to, and informed that the dropsical symptoms had returned, and were very urgent. Much unwillingness was shown by the patient to undergo the operation of tapping; and it was delayed until the chance of its proving of temporary benefit was greatly lessened. She died a few days after it was performed. No examination of the body took place.

Case 12.

OVARIAN DROPSY.

In March, 1819, my friend, Mr. Watson, of Cottingham, called upon me, accompanied by a young and married lady, for the purpose of con-

sulting me upon her case. I learned that the patient had felt, about six or eight weeks before, a certain degree of uneasiness at the inferior part of her body, on the left side, with a slight degree of pain, and sometimes numbness of the thigh of that side. After a short time the lower part of the body began to swell, and at length a very perceptible fluctuation was discovered in it. The patient became emaciated, lost her appetite, and had generally a dry skin, and the urine was somewhat scanty. The lady was the mother of two children, and could assign no cause for her complaint. On examining the body of our patient, there was a very distinct sense of fluctuation perceivable, and the swelling had gradually become of such a size as to render the inferior part of the body equally distended. The patient had been under medical treatment, and the usual methods of cure had been employed without effect.

The disease consisted evidently in an inflammatory action in the left ovarium, and an effusion had commenced in the usual way, and was gradually advancing. It was an incipient ovarian dropsy, and was proceeding to that maturity when tapping becomes necessary, and by which an aggravation is afforded to the disease, and an earlier accumulation occasioned of the fluid. The method of treatment usually pursued in these cases is directed exclusively to the carrying off of the water; but the true disease consists in an inflammatory action in the ovarium, producing the effusion, and

the remedies employed to remove the fluid have no power to remove the morbid state which produces the fluid. The proper disease being chronic, and purely local, local evacuations are peculiarly required. We accordingly began the treatment by applying leeches to the lower part of the body, and continuing, with some slight variation, the diuretic medicines already employed. At the end of a week I saw my patient, and had the satisfaction to find that the symptoms had subsided, and that she had been sensibly relieved by the leeching. She was directed to renew it, and to continue the other parts of her treatment. In a few days I again saw her, and learned that the improvement continued, and that the body had undergone no increase. The cause of the disease was thus materially checked. The objects now to be attained were those of keeping the ovarium in a quiescent or passive state, and of effecting the absorption of the effused fluid; and for this purpose various medicines, and chiefly those of the class of diuretics, were in succession employed, and at length their full purpose was attained by the entire absorption and removal of the fluid, and by the full restoration of the patient to health. It is now ten years since she recovered from her disease; and notwithstanding her having borne several children since that time, she still continues perfectly well, and free from every appearance of her former disease.

Case 13.

CASE OF OVARIAN DROPSY CURED.

[Communicated in a Letter to the Author, from M. W. Jackson, Esq.]

Stamford, March 23. 1833.

In accordance with your wish, I forward you as perfect an account as I can of the case of ovarian dropsy you allude to; and I am happy to add the farther testimony of the perfect success of the treatment, as there has not been any return of the symptoms for two years and upwards. I have treated three more cases with a like result, except in one where there was a return of the symptoms; but, as I never saw the patient afterwards, I cannot state to what extent: at the same time, I have no hesitation in saying that, had she been put under a similar plan, she would have as perfectly recovered as did my other three patients. I will now proceed to give you a short history of the case you allude to.

In the early part of 1830, I was consulted by a lady of rank, who at the time was complaining of great debility and lassitude, which had crept on gradually for a considerable time, and had at length prevented her taking any exercise. There was great difficulty of breathing after going up stairs, or up a hill; considerable enlargement of

the abdomen; pain after exercise, or on pressure over the iliac region; frequent vomiting, and especially after eating: in fact, the general health was completely destroyed, and the patient's friends were extremely anxious about her, and wished her to be sent to London, where she had been before, and had consulted several men of eminence, both physicians and surgeons, with but little or no benefit. I considered the case to be one of chronic inflammation of the ovaria; and I frankly stated that no benefit would be obtained suddenly, but that it must be a continued and tedious process. My patient was very submissive, and I therefore directed her to have sixteen leeches applied to the abdomen; to keep in bed; to abstain from animal food, wine, and all stimulants, and to live upon farinaceous and other vegetable matters. The leeches were repeated in a week, after which the pain had abated considerably; I then gave her calomel, squill, digitalis, and the acetate of morphia, in a very minute dose, with an occasional drastic purge of gamboge or jalap, and supertartrate of potass. The leeches were now applied every four days, but only four at a time, and a small blister constantly kept sore; that is, as soon as one healed, another was applied. Under this treatment, the patient gradually recovered; the body diminished in size; the pain abated; the sickness stopped; the appetite improved; and the strength gradually increased: in fact the patient became convalescent, and has had no return up to the

present period. I perhaps should add, that I kept her from animal food, and all stimulants, for sixteen months, although she was well to all appearance in about six months. The other cases were of a like description, only occurring in patients in humble life; and in whom a similar plan was adopted, and with the same successful result.

From the view which has been given in the preceding pages of the pathology and history of dropsy, it will appear evident that a considerable diversity exists in the nature of the remote causes, as leading to effusion, and in the nature of the treatment demanded for them. It is, therefore, to be borne in mind, that the examples afforded by the foregoing selection of cases must be accepted as illustrating general principles only, and not as setting up a rule to be observed minutely in the treatment of all other cases. The *prominent* symptoms of dropsy of the chest arise from the presence of the water, and this is the same in all; but the causes of the effusion, as pertaining to a disease of this or that organ, and to the nature and amount of such disease, and to the changes especially of structure, and thence to the alterations in function, are, in comparison with the more palpable signs of effusion, but imperfectly seen and understood: yet it is by the just appreciation of all these conditions, that we

can be said to understand the true bearings of a case, and properly direct the treatment for it. The danger of the disease is ordinarily reckoned, from the urgency of the symptoms, as depending upon the effusion; the real danger, however, is from the exciting causes which give rise to and perpetuate it, and from the several morbid conditions in union with that cause. The treatment, therefore, which may be proper for the cause when single, may become, to a certain extent, inadmissible, or require various modifications, when combined. In one case, a full bleeding from the arm may be required, though the immediate symptoms be not urgent, and where it may seem, therefore, not to be demanded; whilst, in the opposite case, with an effusion even threatening suffocation, and where it would seem to be strongly indicated, it might, perhaps, if adopted, be followed by a fatal effect. And what is true in regard to the indiscriminate use of the lancet, applies also to the same use of the several medicines composing the class of diuretics, and of drastic purgatives, and to the application of the same rules for acting in the treatment of all. It should, therefore, be remembered, as a point of no slight importance, that the treatment of each case of dropsy can be regulated alone by the circumstances relating to the disease producing it, and to the influence which such disease exerts over the other actions of the system. In all, it is necessary to remove the effused fluid; but the means which may be required for this purpose, or

can be safely employed for it, will vary with different patients; and as this variation arises from a variation in the nature of the diseases, so those diseases, in common with the effusions they give rise to, will demand modifications in the treatment correspondent to the changes which the organs have undergone. The most common form of dropsy, perhaps, is that of the body, and the most common cause of it is a disease of the liver: there is, however, no little error in the notions commonly entertained of the diseases of this organ, as well in regard to the mode by which they lead to or produce effusion, as to their own nature and causes, and the means which are suited to prevent or remove them. Hence it is too often witnessed that the symptoms pertaining to a mere derangement in the functions of that organ, are regarded and treated as produced by disease; and of its states of disease, the several chronic forms of it are accounted to be alike, and, as the evil consequence of such an error, the remedy for all to be the same, and that remedy to be mercury.

THE END.

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