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A

LECTURE ON DROPSY.

101

BY

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LECTURE ON DROPSY.

GEORGE C. GORDON, M.D.

LECTURER IN THE MEDICAL SCHOOL OF THE UNIVERSITY OF CHICAGO

CHICAGO, ILL., 1881.



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ADVERTISEMENT.

THE following Lecture is published nearly in the same form as that in which it was originally delivered on the 15th of January. In submitting it to the eyes of the public, and to the notice of his professional brethren in particular, the author has no apologies to offer. He has been induced to take this step, simply by the desire of contributing his share towards the improvement of a most important branch of physical science. He has retained the form of a lecture, in order to mark most effectually, that to the junior members of the profession alone, he presumes to address his observations.

Great Portland Street,

Jan. 18, 1819.

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A LECTURE ON DROPSY.

GENTLEMEN,

WE this morning enter upon the consideration of the constitutional affections of the body which are unattended by fever, and the first that meets us is Dropsy, to which disease our attention in this lecture is to be directed.

I need not tell you that Dropsy is a very important subject. If you have been in an Hospital but once in your lives, you must have been struck by the frequency of the disease; you will in all probability have heard of its great fatality, and if you have paid any share of attention to it, you must as certainly have observed how widely the opinions of medical men differ respecting its pathology, and in what extreme obscurity they generally leave it. But though you certainly do not require to be told that Dropsy is a very important subject, you are perhaps not so well aware, how little is to be

learned about it from books, still less are you likely to know, that a great proportion of the books which have been written on Dropsy since the days of Hippocrates downwards, are full of incorrect and imperfect observation, and of inaccurate reasoning, and that instead of urging you to peruse them, it is rather the duty of a conscientious teacher to warn you to avoid them, or at any rate to caution you most strongly against the errors into which they might but too probably lead you. Fully sensible of the degree of accuracy with which the *symptoms* of the disease were described, I yet feel myself called upon to animadvert thus early and in this summary way upon the great mass of authors who have treated on the *pathology* of Dropsy. Respect for authors of merit who have preceded us is what we owe to justice and to common politeness. It is only doing to them as we wish that our successors should do unto us, but to attach authority to opinions merely because they are old, and not because they are correct and practically useful, to inculcate doctrines that I seriously believe would lead you astray if followed, is what cannot be expected. In former lectures, I trust that I have frequently given you proofs of the degree of veneration for ancient opinion that I entertain, and you may very possibly have thought me unnecessarily

tedious, when I was careful to point out to you that such a particular fact was first noticed by Aretæus or Galen, and such a particular doctrine first promulgated by Boerrhave or Cullen. I did this because I knew the time would come when I should feel it my duty to abandon them all, and at that point of time we are now arrived. On the present occasion therefore I would advise you to lock up all your old books from Hippocrates down to Dr. Cullen, and learn the pathology of the formidable disease of which I am now to treat from more recent sources.

The doctrine of dropsical effusion continued in the very confused and imperfect state I have described, until a few years back, when Dr. Blackall of Exeter, in 1813, took it up and made a very considerable advance towards its improvement; but Dr. Blackall's book, though in many points a good one, was not without its faults. He appears to me to have overlooked some important circumstances, but to have erred chiefly in his pathological speculations. All his views regarding Dropsy were warped and misled by the unnecessary importance which he attached to a particular symptom of the disease, coagulability of the urine in certain cases on exposure to heat, which he stated to be a new and most interesting fact, and of suffi-

cient consequence to form part of the title-page of his work.*

This symptom was the pivot upon which he turned in every page of his volume, and throughout, it was magnified into a degree of importance, of which subsequent observation seems to me to have proved it altogether unworthy. Yet with these imperfections, Dr. Blackall's is still a most valuable book, and a great number of very interesting facts regarding Dropsy are there stated, and fully illustrated. The character which it very speedily acquired throughout the island sufficiently proved the value which was set by the profession upon his views. It has since come to a second edition, and this I mention as a proof of the tacitly received understanding of the incorrectness of the old doctrines, and of the necessity which existed for some improved pathology in this disease.

Impressed with this belief so far back as 1810, I communicated to a Society, established in this part of the metropolis for the promotion and diffusion of Medical Science,† some ob-

* Dr. Blackall's Book is entitled "Observations on the Nature and Cure of Dropsies, and particularly on the presence of the coagulable part of the Blood in Dropsical Urine." London, 1813.

† The *Westminster Medical Society*, the meetings of

servations on Dropsy, corresponding in several points with the views which I afterwards found to be entertained by Dr. Blackall. Many of these were suggested to me in the way of clinical remarks on cases in St. George's Hospital, by a Physician of that Establishment, which an accurate observation of nature had led him to make long before the appearance of Dr. Blackall's book.* The experience which I have since had in dropsical cases, has added to some of the opinions which I then adopted, and it has served to correct others; but the leading doctrines that I propose to communicate to you this morning are in substance the same.

It is only within these few days that I have had the good fortune to meet with a paper on Dropsy, lately published by Dr. Crampton, in the transactions of the King's and Queen's College of Physicians in Ireland, and entitled a *Clinical Report on Dropsies*.

Of the merits of this paper, it would be perhaps presumptuous in me to offer any opinion at present, but I shall be much surprised if it is not soon acknowledged to be one of the most which are held at the Anatomical Theatre, Great Windmill Street.

* I allude to Dr. Nevinson, whose character as a pathologist is too well established to receive any support from my feeble testimony.

valuable contributions to medical knowledge which modern times have afforded. It seems to me to put posterity into the right path with regard to the pathology of Dropsy, a path which they will have indeed to mend and widen, but not like their predecessors, to seek.

I will not attempt any thing like a sketch of the old doctrines of Dropsy, for fear that you become tainted with the fears and prejudices of old authors; but I will proceed at once to tell you what I believe to be true about Dropsy, and what experience seems to warrant me in asserting.

Dropsies are of two kinds, local and general. Of local Dropsies there are three principal forms—chronic hydrocephalus, hydrocele, and ovarial Dropsy. One of these falls under the care of the Surgeon. The pathology of each of the remaining two has something in it peculiar and altogether different from that of general Dropsy. They are therefore excluded from our present consideration.

General Dropsy is usually stated to occur in three forms—ascites—anasarca—and hydrothorax; but to these it is necessary to add a fourth, hydropericardium, a form of Dropsy generally confounded with hydrothorax, but which ought to be separated from it in theory, however difficult it may be to distinguish in practice. This

difficulty I have reason to believe is by some persons very much overrated. These forms of disease sometimes exist independent of each other. We find anasarca without hydrothorax, and occasionally, though more rarely, hydrothorax without anasarca. Continually we observe ascites and hydropericardium subsisting alone. It is of course very common to find two or more of these forms of Dropsy united. The comparative frequencies of these different complications is a matter of curiosity, though not of any practical importance. The pure ascites, and the combination of it with anasarca, are decidedly the most common. Next follows the pure anasarca, and its combination with hydrothorax and hydropericardium. The rarest cases are those which afford evidence of the simultaneous existence of them all. Of these the most important, in a practical point of view, are the two combinations,—ascites with anasarca, and hydrothorax with anasarca.

The symptoms by which these diseases are characterized are as simple in some instances, as they are complicated and obscure in others. Anasarca is distinguished by the swelling of the cellular membrane that pits on pressure; ascites by the sensation of fluctuation in the belly. This criterion of water in the belly sometimes fails us, in consequence of a great accumulation

of fat between the skin and abdominal muscles. I have never known this to arise from great tension of the belly, nor do I believe that any distinct sense of fluctuation is given either by anasarca of the abdominal parietes or by ovarian Dropsy.

The symptoms which characterize hydrothorax are much more obscure, and the most experienced Physicians are often mistaken with regard to it. I recollect an instance in which every symptom mentioned by authors was mimicked by the concurrence of ascites with tuberculated lungs. Another case occurred to me last year, and I mention it to shew that we sometimes magnify the difficulties of Diagnosis. A woman, 84 years of age, had been for several years under my care; she had every symptom of confirmed hydrothorax, and I never for a moment doubted of the nature of her disease. I had given her digitalis squills and other diuretics, and she had always experienced the greatest benefit from them; for several months she had been kept alive by their use. She died rather unexpectedly, as frequently happens in hydrothorax, and I examined the body the next day. There was no hydrothorax, for there was no *cavity* of the thorax, the lungs adhering every where very firmly to the pleura lining the ribs, and leaving no space for the accumulation

of water. Yet I have no doubt in my own mind that we should have found water there if there had been a cavity, and that in point of fact she had that disease upon her, of which one of the effects is the effusion of water in the chest. I never tried the experiment, but I suspect that a quantity of luke warm water might be injected into the thorax, and that we should not produce that combination of symptoms which is considered to characterize hydrothorax. There seems to me to be an error in presuming that the collection of water in the cavity of the pleura is the sum and substance of that disease. Here was a woman, who, during life, had all the symptoms which are commonly described as marking hydrothorax. Because on examination after death no water was to be met with, we are not therefore to conclude that we were mistaken. She may be said to have had hydrothorax, for she had that state of the general system, that state of the heart, arteries, exhalants and veins, and possibly that state of the absorbents, brain and nerves, which would have led to the effusion of water had there been a cavity of the thorax. She died of that disease of the general system just as any other patient dies of hydrothorax,—not merely because there is water in the chest, for as much, or more perhaps may have been accumulated there several months or years before, but

because the powers of life are in someway or other, inexplicable by us, exhausted by the continuance of that diseased state of the system. The circumstance of previous obliteration of a particular cavity of the body by coagulable lymph was an accident, which might affect a particular symptom, but could not possibly have any effect upon a constitutional disease.*

The symptoms which denote the presence of hydrothorax—of that disease which in nine cases out of ten is attended with effusion of water into the cavity of the thorax, are of two kinds—those that indicate Dropsy generally, and those that are more peculiarly referable to the thorax. In some rare instances I believe it may be possible to detect the presence of water in the thorax by percussion and external examination, but I am well persuaded it can never be held out as a common means of judging of the disease.

The symptoms that mark the existence of a dropsical diathesis in the body, are diminished secretion of urine, thirst, œdema of the feet and ancles, and that paleness of face and peculiar expression, known by the name of the leucophlegmatic countenance. The last symptom is vague, and cannot easily be made intelligible by words,

* My object, in attempting a refinement apparently so unnecessary, will appear more fully in the sequel.

but it is of real occurrence, and of some practical importance. These four form the general symptoms of hydrothorax, and they may co-exist with any of the other forms of general Dropsy.

The local symptoms of hydrothorax are difficulty of breathing, especially in the recumbent posture, cough, oppression of the chest, sudden startings from sleep, and that lividity about the lips which is common in all cases where the breathing is obstructed by a mechanical cause, and the blood is imperfectly oxygenated. The dyspnæa attending hydrothorax, is different from that which occurs in true pleurisy, where the lips are seldom livid, and where respiration should rather be characterized as painful than difficult, it being hurried chiefly from the pain attendant upon a full inspiration.

The local symptoms of hydrothorax are, as I have already stated, very fallacious, and you can readily see how this may be, for they are equally the symptoms of every form of thoracic disease, inflammatory and spasmodic. Sometimes we are very confident of finding water in the chest, when that cavity is perfectly free from disease.* At other times, we find the thorax

* Vide Dr. Crampton's *Clinical Report*, pp. 30 to 32.
Vide Morgagni, Letter XVI. Article II.

full, when we had no suspicion of the disease existing. Of this, it has fallen to my lot to see one or two instances.*

Hydropericardium, the only remaining form of general Dropsy, is characterized by difficult breathing, highly aggravated in the recumbent posture, and by exertion, particularly by ascending a hill or flight of steps. The pulse is intermittent and irregular; there is great oppression at the heart and palpitation, and to these symptoms may be added that peculiar pallor and anxiety of countenance, which is usually present when the heart labours in its functions, either from inflammation or from mechanical causes. I do not mean to be understood as saying that we have any pathognomonic symptoms of hydropericardium, but we may strongly suspect it to exist, if such symptoms are present as I have just described joined to those which denote the general hydropic diathesis. In treating of the symptoms of this form of Dropsy, Dr. Baillie, in his *Morbid Anatomy*,† lays some

* Vide Morgagni, Letter XVI. *passim*. The whole of this chapter should be diligently studied by the young pupil, on account of the valuable remarks on the symptoms and diagnostics of hydrothorax and hydropericardium, which it contains.

† Page 17, fifth Edition, 1818.

stress upon the oppression, referred more unequivocally to the region of the heart in these cases. Dr. Crampton* expresses a suspicion that the early occurrence of œdema of the face, indicates Dropsy of the pericardium. This author attaches great weight to the detail of symptoms of hydropericardium given by Corvisart in his *Treatise on the Diseases of the Heart*, to which I refer you.

The general prognosis in Dropsy is highly unfavorable. Some years ago I was led to entertain the idea that the proportion of deaths by Dropsy was three in five; but I probably only took into calculation the more decidedly marked cases, and it may be objected that this was not a fair estimate. An excellent opportunity of coming to a right judgment on this point is presented to us in Dr. Crampton's *Clinical Report on Dropsies*, to which I have already frequently referred. He there publishes an account of every case of Dropsy, from the leuco-phlegmatia of systematic authors to the formidable complications of ascites and hydrothorax, treated in one of the large Hospitals of Dublin† for one year, from the 1st of May 1817, to the 1st of May 1818. During that period 74 cases of Dropsy were admitted, the greatest propor-

* *Clinical Report*, p. 10.

† Steevens's Hospital.

tion of them strongly marked and urgent. Of these 35 were cured, 21 died, and 18 left the hospital still labouring under the disease. This makes the number of deaths in the ratio of 2 to 7 of those admitted, a proportion very creditable to the skill and judgment of the Physicians of that Hospital, inasmuch as I doubt if there is any other Hospital in the country that could produce a more satisfactory record. Yet here you have abundant evidence of the danger attending this disease. In our own times, with all the assistance afforded by recent investigation, with all the advantages of hospital attendance, and under the direction of a Physician skilled in the pathology of the disease, nearly 1 case in 3 proved fatal. It would be interesting to determine what was the usual proportion of deaths in dropsical cases in the large hospitals of the metropolis some years ago. If this enquiry should ever be prosecuted, I am prepared to find that the improvements which have been lately made in its pathology and modes of treatment will have produced a corresponding effect in the diminution of its mortality.

It may reasonably be considered that much of the danger attending Dropsy is to be attributed to the delay which is made before the patient applies for relief. Dropsy is a disease which has but little connection with the

brain and nervous system, the consequence of which is, that patients, not feeling very ill, think there can be but little mischief going forward, while in fact the disease is undermining the very foundations of health, rivetting itself in the constitution, and gradually advancing beyond the reach of art, that is to say, to the point, when from being a disease of function it becomes a disease of structure. I have little hesitation in saying, that if this fact was more generally known to the world, if patients were made more sensible of the necessity of guarding against the earliest symptoms of dropsical effusion, and if the profession at large were fully aware of the nature of those early symptoms, and of the proper means of obviating them, Dropsy would soon lose—certainly not all, but a great part of its present character of danger.

Ascites is the most lingering, but it is the most fatal of all the forms of Dropsy. It is that, over which medicine exerts the least power. Anasarca of the upper extremities is always particularly formidable, because it shews the tendency to dropsical effusion to be general over the body, and to arise therefore from a general cause. All the cases of anasarca of the upper extremities which I have seen, have been connected with thoracic disease, or have

arisen from general debility of the whole system.

Hydropericardium is particularly to be dreaded, on account of its tendency to occasion sudden death from slight exertions ; of this fact I have witnessed several instances, and the same remark is to be met with in Morgagni and elsewhere. Dropsical patients have often been observed to die quite unexpectedly, and I believe this suddenness of death will generally be found connected with Dropsy of the Pericardium.

To illustrate the proximate causes of Dropsy, it will be necessary to begin by stating to you what are the usual appearances found upon dissection, in dropsical cases ; for upon these every thing must depend, and morbid anatomy has conferred infinite service on science and humanity, by unfolding the true origin of dropsical effusion. Two sets of morbid appearances present themselves, totally distinct in their character, though occasionally they prove to be united in the same subject. The first are the thoracic, and the second are the abdominal appearances.

In the thorax we find, besides water in the cavities of the pleura and pericardium, enlargements of the heart,—adhesions of the heart to the pericardium,—flakes of lymph floating in

the water of the pericardium, in the cavity of the chest, or loosely attached to the pleura,—white spots, that is to say, depositions of coagulable lymph upon the surface of the heart,—ossification of the valves of the aorta,—incipient ossification of arteries,—the internal coat of the aorta inflamed,—aneurism of the aorta,—and lastly, vomicæ and tubercles in the lungs. When Dropsy occurs, connected with this state of local disease, it almost always assumes the form of hydrothorax and anasarca, or that of hydropericardium.

It occurs to us however, continually to examine the bodies of those who die of Dropsy, and to find the thoracic viscera without the smallest trace of disease, instead of which, more or less organic derangement is discernible in the viscera of the abdomen. We observe large quantities of serous fluid effused into its cavity, and frequently we notice flakes of coagulable lymph floating through it. Besides the mere accumulation of water, we find the liver swelled, hard, tuberculated, or gorged with blood,—the spleen and pancreas enlarged,—the peritonæum either generally, or in spots, inflamed, thickened, studded with small white elevated points, or sometimes in a state approaching very nearly to gangrene,—the mesenteric glands enlarged,—the stomach schirrous; all which appearances I have

frequently seen, and they will become perfectly familiar to you, when you attend the medical practice of any of our large hospitals.

—Abdominal disease is infinitely more common than thoracic. Of fifteen cases of Dropsy, examined after death, by Dr. Crampton, eleven were abdominal, one thoracic, and three complicated. My own observations would induce me to state, on a rough calculation, the average at one thoracic to about six or seven abdominal cases. When dropsical effusion attends any of these varieties of abdominal disease, it appears under the form of ascites, or of ascites and anasarca combined.

Sometimes we have occasion to notice thoracic and abdominal disease present in the same subject; and we have lastly to state, that instances are not wanting where, after confirmed Dropsy, no kind of diseased structure is to be traced, either in the head, lungs, or abdomen. These cases are, however, comparatively rare.

What then are the fair inferences to be deduced from the examination of these and the few remaining morbid appearances in Dropsy? —Is it not obvious in the first place, that they divide themselves into two classes, those which are decidedly inflammatory appearances, and those which exhibit only chronic derangements of structure? Of the first, the most important

in a practical point of view, are adhesions of the pericardium to the heart, spots of coagulable lymph upon the surface of the heart, and thickening and inflammation of the peritonæal coat of the liver and bowels.

Of the second class are schirrosities of the liver and stomach, swelled glands in the groin and axilla, diseased valves of the aorta, aneurism and the tumor of pregnancy. Of these, by far the most important in practice, and in comparison of which all the other causes of Dropsy are insignificant, is the tuberculated state of the liver.

Let us next enquire how all this can be made applicable to the pathology of Dropsy. We must borrow an observation from the old writers, who tell us that Dropsy may depend on one of two general causes, increased exhalation, and diminished absorption. To the argument thus stated, there can be no possible objection; but objections multiply very fast, when the same writers proceed to attribute many cases of Dropsy to the latter of these causes—diminished absorption, and recommend us in consequence to stimulate the absorbents with the view of curing Dropsy. Our knowledge of the pathology of this part of the body is certainly very scanty and obscure, but as far as we can judge, the absorbent system does not appear to

be very liable to disease. Rickets and scrofula are the only disorders of any importance which are stated by authors to be connected with it. It would even appear from the emaciation which takes place in all fevers, that the absorbent system continues its functions, while those of the sanguiferous and nervous are greatly impaired ; and therefore when we consider how frequent a disease Dropsy is, and how well established are the facts which prove its connection with the sanguiferous system, we shall, I imagine, have ample reason to conclude that diminished absorption is rarely if ever to be viewed as the proximate cause of Dropsy.

It is then to the circulating system that we are to look for it, for Dropsy is purely a disease of that system, and one moreover in which the absorbents and nerves seem to participate but very slightly. Medical authors have attempted a distinction, among the Dropsies of increased exhalation, into such as arise from the state of the *exhalants*, and such as arise from the state of the *blood*. It is extremely doubtful how far morbid thinness or tenuity of the blood gives occasion to dropsical effusion ; even if it does, it is still more questionable how far it acts on the principle which they suggested. As Dropsy from this cause, even by their own account, is a rare occurrence, we may leave it out of conside-

ration for the present. This then brings us down to the exhalants themselves, and it was in their reasonings on this part of the subject, that they fell into the error of which I early took notice.

They appear to have assumed as an axiom, that the state of the exhalants which led to dropsical effusion was a state of weakness and atony. It was an assumption unauthorized by fact, and unwarranted by sound reasoning. Yet upon this opinion of an atony of exhalants in Dropsy, mainly rested all the old pathology, and all the old system of treatment. The exhalants are *necessarily* no more in a state of atony than they are in a state of spasm or inflammation. It is true they *may* be in such a state, but it is a circumstance that will depend not on the dropsical diathesis being present or absent, but upon the general character of the circulating system. The real state of the case appears to me to be this, that the exhalant vessels are perfectly passive in Dropsy, just as passive as the absorbents, and the greater or less degree of effusion from them depends entirely on the state of the heart and arteries on one side of them, and that of the veins on the other. To explain to you then in a few words the view which I have been led to entertain of the pathology of Dropsy, I would point out that Dropsy is of two kinds, *arterial* and *venous*.

In a state of health, there must always be a due balance preserved between the impetus of the blood in the arteries, and the freedom of circulation through the veins. If arterial action is increased from some general cause, as strong exercise, or an attack of fever, which acts equally on the veins and every other part of the system, all goes on well, but if arterial action is increased from a cause which does not operate equally on the veins, as from diseased valves of the heart, or aneurism of the large vessels disturbing the regularity of the heart's action, the impetus of the blood upon the exhalant vessels will be increased, and Dropsy will follow. If on the other hand the return of venous blood to the heart is obstructed by some local impediment, which has no corresponding effect in retarding the motion of blood through the arteries, the same degree of morbidly increased pressure on the exhalants will here occur from increased resistance, as occurred in the former case from increased impetus, and the same consequences will ensue.

It is highly important to distinguish in practice an arterial from a venous Dropsy, and though it is not always easy to do so, yet the following observations may serve to assist you in the diagnosis. All cases of Dropsy which exhibit after death marks of thoracic disease are of the arterial

kind. So are all those which are connected with inflamed peritonæum. Dropsies which depend upon enlargements of the liver and spleen, such as those which follow a Walcheren ague, Dropsies which are owing to the pressure of the impregnated uterus, and the Dropsy of a limb from the pressure of a tumor in the groin or axilla, are of the venous kind.

We have already noticed some of the principal causes of Dropsy, but there are three which have not yet been alluded to, and which must be mentioned here. It is necessary to be thoroughly aware of their bearings on the pathological doctrines which I have just detailed, to render you successful in your practice. They are all of daily occurrence; and unless you are familiar with them and their mode of action, you are likely to be baffled in the first case of Dropsy to which you may be called.

1. Dropsy is sometimes owing to cold. There is no doubt about the fact; the only difficulty is how to explain the mode in which the effect is produced. I will detail a case in point, and you may draw your own conclusions. A man, ætatis 32, was admitted some years ago into St. George's Hospital with anasarca swellings, and all the symptoms of water in the chest. These complaints he attributed, and probably with justice, to cold and wet joined

to great fatigue which he had experienced nine months previous, while occupied in the relief of a shipwrecked vessel. He died on the fourth day after his admission, and I was present at the examination of his body. The heart was found considerably enlarged, and it adhered everywhere very firmly to the pericardium. Can you doubt for a moment what was the true nature of the disease under which this man laboured, or can you believe for a moment that tonics or diuretics would have saved him. Assuredly not; but he would have been saved in all probability, if at the beginning of the disease he had been actively bled. When the disease had once advanced to the extent of uniting the inflamed surfaces of the heart and pericardium, the case became utterly hopeless. The Dropsy which supervened in this instance was purely of the arterial kind. It was occasioned by the chronic disturbance which took place in the action of the heart. Whenever the patient has strong reason to believe that his disease arose from cold you may take his word for it, and the chances are greatly in favour of his being right. It is for you to recollect, that the ordinary effect of cold is not atony, but inflammation.

2. The next point to be touched upon is the connexion of Dropsy with hard drinking. This is another every day occurrence, and hard

drinking was formerly said to cause an atony of the exhalants. Discarding this supposition as altogether gratuitous, I would desire to put you on your guard when you have reason to believe hard drinking to be the source of the mischief. Such cases are the most formidable of any that occur. They are generally found to be connected with one of two very unmanageable conditions of abdominal disease—either a tuberculated state of the liver, or a true schirrous hardening, thickening, or ulceration of the coats of the stomach. Strong measures will almost inevitably accelerate the death of a patient under such circumstances. On the other hand it is to be remembered, that hard drinking has a very strong tendency to increase the action of the heart and arteries, and in consequence to bring on some low chronic state of inflammation about the lungs, heart, or internal coats of the great vessels. In this latter case Dropsy would be of the arterial, in the former of the venous kind. Your object therefore, when you suspect hard drinking to be the original cause of disease, must be to watch for other symptoms. Examine the region of the liver, look at the tongue, and the state of the excretions. If there are no decided marks of disease there, feel the pulse narrowly, observe if it is compressible, or if it bears a great force of the finger be-

fore you can effectually command it;—take notice if there is palpitation or cough, or soreness of the epigastrium on full inspiration. If one or more of these symptoms be present, without adequate marks of abdominal disease, your patient has arterial Dropsy, and if active measures be not speedily taken with him, the disease will advance, and may possibly prove fatal.

3. The third point to which I undertook to direct your attention, is the connexion of Dropsy with some of the febrile eruptions. It had long ago been observed that Dropsy, particularly in the form of anasarca, frequently followed a scarlet fever, and occasionally though more rarely the measles, small-pox and erysipelas, but different opinions were entertained as to the cause of the dropsical effusion in these cases. The circumstance is most frequently met with in scarlet fever, which is often followed by œdema of the feet, that sometimes goes on to perfect anasarca of the upper and lower extremities. Formerly it was considered an obvious disease of atony, and the little patients among whom it chiefly prevailed were made to swallow bark and aromatics in large quantities. I am well persuaded that this practice is sometimes necessary, but the experience of late years has, I think, sufficiently proved that it is a true arterial

Dropsy, that bleeding will often cure it without any assistance from medicine, but that purging is the safest and readiest means of relief.

Very analogous to this state of Dropsy supervening upon a febrile eruption, is the case of Dropsy coming on in young women about the period of puberty, when the menses are expected, or when having appeared once or twice, they altogether recede. A very remarkable case of this kind has lately occurred in the practice of the St. George's and St. James's Dispensary. Charlotte Russ, a delicate girl, ætatis 13, was affected with anasarcaous swellings as far back as June 1818. The disease made gradual advances till the month of November, when her skin was distended to the most extraordinary degree. The features of her countenance were totally lost, and there was evident fluctuation in the abdomen; yet she could lie down in bed. In this state she was attacked with marked symptoms of apoplexy on the evening of the 28th of November. With some difficulty the temporal artery was opened, and twenty-five ounces of blood taken away. This not giving relief, the bleeding was repeated, and the patient on the following day came under the joint care of Dr. Ash and myself. Venesection was now rendered practicable from the partial subsiding of the anasarcaous swelling of the arm, and was practised, until the

patient had lost in all fifty ounces of blood. From that day the Dropsy began to subside. She is now convalescent, but very weak, requiring to be supported by wine and tonics. There can be little doubt but that this was a case of arterial Dropsy, that is to say, of Dropsy originating in some local affection of the heart disturbing it in its function of transmitting the blood into the arteries, but occasioning no corresponding effect upon the venous system.

Too much stress was laid by the older authors on the occurrence of Dropsy in persons of advanced age. I am very doubtful or rather altogether sceptical as to the authority on which such an opinion was entertained. Dropsy occurs to all ages. Children of two or three years old are often dropsical. It is very common about the age of 15, and from that period it continues pretty steadily to affect all ages equally. Young people are chiefly subject to arterial, and the old to venous Dropsy, but this is by no means to be considered as holding good as a general rule, the exceptions to it being very numerous. Dropsy occurs nearly with equal frequency in men and women. I know of no particular trades or occupations which are in any peculiar manner obnoxious to it.

Is there then no such thing as atony of the exhalants in Dropsy? Is it a perfect fallacy

which our predecessors for 2000 years have been teaching? Is there no such thing as Dropsy from weakness?—If I thought there was not, I would say so, whatever be the sanction which the opinion may have derived from its antiquity, but it would be absurd to inculcate such a doctrine. Observe a man, who has lost thirty ounces of blood from his arm in a full stream. He faints, and surely there can be no great arterial action remaining, but his skin is bedewed with a colliquative sweat. Observe another in the last stage of hectic fever; he perspires profusely and his legs swell. Dropsy then is sometimes owing to relaxation and atony of the exhalant vessels, and if the old writers had been content with applying this doctrine to the cases that sanction it, the pathology of Dropsy would long ago have been better understood; but they confounded atony of the exhalants with pressure on the exhalants, and they were at any rate unaware that the doctrine of atony and debility applied to but a very small proportion of the cases of Dropsy which meet us in common practice.

Dropsies from relaxation and atony of exhalant vessels occur in the latter stages of chlorosis, diabetes, and hectic fevers of all kinds, particularly consumption. They arise from flooding, great and sudden abstractions of blood by the lancet, and as a consequence of long continued

fevers. On examination of the body after death in these cases, no morbid appearances are met with sufficient to account for the symptoms. Dropsy of this kind is occasionally brought on in the lower ranks of life by the want of good nourishment, and in all ranks it may be induced by a long continued state of disordered stomach, and imperfect digestion. But because the exhalants are in a state of atony after a six weeks fever, or a diabetes of two years, it surely does not follow that they are in the same state when a young man of 22 catches cold by digging all day in a wet ditch in the middle of winter, and returns home with a Dropsy. The cases will not admit of any parallel. Yet no such distinctions among Dropsies were formerly made; and until the appearance of Dr. Blackall's essay, I know of no systematic work which distinctly and explicitly states them. I cannot consider in the light of any improvement upon the older writers, the speculations of one modern author on the subject of Dropsy,* who, though he traces an analogy between the states of inflammation and dropsical effusion, yet ends by viewing this latter affection as frequently rather a salutary process of nature than as actual disease.

* Dr. Parry of Bath.—Elements of Pathology.

If any degree of correctness attaches to the pathological views of Dropsy which I have attempted to lay down, it will follow that the indications of cure recommended by the old authors, which were generally to evacuate the effused fluid, to stimulate the absorbent system, and to give tone to the exhalant vessels, are altogether nugatory. Not that I would lay any stress upon this, as the history of medicine affords throughout numerous instances of the most opposite indications of cure being answered by the same remedies. It appears to me that the treatment of dropsical effusion must depend upon the view which we form of its *proximate cause* in each particular case, that it will be different in proportion as we consider it to be of the arterial, venous, or atonic kind, that is to say, to depend on disturbed arterial action, on obstruction to the free return of venous blood, or on general debility and atony of the whole system.

In cases of arterial Dropsy, your object must be to diminish arterial action.

In many instances, this is most readily and effectually done, by bleeding at the arm. Of the advantages to be derived from venesection, in the treatment of Dropsy, it is unnecessary for me to enter into any detail here. You will find the subject very ably handled by Dr. Black-

all; and Dr. Crampton's Clinical Report has added many new and most decisive proofs of the value of this mode of treatment. Of the thirty-five cases formerly alluded to,* as discharged, *cured*, from Steevens's Hospital during the last year, twenty-three were bled, and twelve were treated in the more usual way. A large proportion of those bled, were of a very urgent kind; and as far as my observation extends, would probably have proved fatal under any other system of management. They took very few medicines internally, and altogether it is scarcely possible to imagine a more satisfactory trial of the efficacy of bleeding in Dropsy. For the last two years, I have been constantly in the habit of ordering venesection in all strongly marked cases of arterial Dropsy, and often with immediate and permanent relief. The quantity of blood to be taken, and the frequency of repetition must of course depend on the urgency of the case, the period of the disease, the strength of the patient's habit, and perhaps some other circumstances. I have noticed that blood should never be drawn to such an extent as to induce syncope, and that frequent moderate bleedings are preferable to large ones. The blood drawn will sometimes exhibit a buffy coat, but more generally it will

shew the appearance (scarcely however less satisfactory) of great firmness of coagulum. The symptoms which denote that a Dropsy is of the arterial kind, I have already hinted at.* They are an incompressible, hard, full or wiry pulse, coagulability of the urine on exposure to heat, cough and headache aggravated on full inspiration. The exciting cause, where it can be ascertained, and the previous history of symptoms, assist us materially in forming the diagnosis.

Venesection in dropsical habits is never to be carried further than the urgency of the symptoms absolutely requires. It frequently happens that we have evidence of the existence of arterial Dropsy, when the state of the pulse, the advanced state of the disease, or the age of the patient forbid all thoughts of bleeding at the arm. The dropsical symptoms too not uncommonly continue after venesection has been carried to the utmost extent to which we can safely go. It is under these circumstances that digitalis has appeared to me to be eminently serviceable, from the power which it possesses of controuling the action of the heart.

If there is any portion of medical science, which can be said to remain precisely in the same state in

which the authors of the present day found it, it is unquestionably the science of Therapeutics. With very few exceptions, it appears to have been neglected by modern physiologists, and we are content on this subject to lean upon the opinions, and to use the very language of times long passed. But surely, to define with accuracy the mode of operation of the drugs which we employ for the relief of disease, is a task not unworthy of scientific investigation. These observations are suggested to me by the view which is generally taken of the action of digitalis in Dropsy. It is said to be a diuretic, to have a peculiar power in stimulating the kidneys, by virtue of which it relieves Dropsy. Of any such power in digitalis, I profess myself utterly ignorant. I have given that medicine to numbers of persons who had no Dropsy, but I could never detect in any one of them the smallest symptom of increase in the quantity of urine. There may be drugs which primarily affect the kidney, and which deserve the name of diuretics, just as there are drugs which primarily affect the circulating or the nervous systems, but no medicine deserves that title which will not increase the discharge of urine in a state of health. Instead therefore of saying that digitalis cures a Dropsy, by increasing the flow of urine, it would be far more philo-

sophical to say that it increased the flow of urine, by curing the Dropsy. We have ample evidence of the power of digitalis over the circulating system, in a state both of health and disease; and that power appears to me to be fully sufficient to explain its acknowledged efficacy in the relief of Dropsy. *Frustra fit per plura quod potest fieri per pauciora* is a maxim of strict philosophy, which may well be applied to the common speculations on the *modus operandi* of this medicine.

Dr. Withering, to whom we are indebted for its introduction into practice, long ago observed that the action of digitalis was impeded by a plethoric state of the circulating system; and this is a remark which, though hitherto I believe much neglected, appears to me very important, and I am sure I have seen it frequently confirmed. We have an analogy for it in that inflammatory state of the system which is prejudicial to the efficacy of bark in agues. I have usually had occasion to observe, that in arterial Dropsies of recent standing, digitalis proves of no service, until the tone of the heart and arteries has been lowered by bleeding and purgatives. If the system is properly prepared for the reception of this medicine, it will commonly produce its good effects in the course of a few days, and sometimes of a few hours. I have seldom seen it

necessary to push it to the extent of nauseating the stomach, although I have heard such an opinion stated by an authority to which I attach the highest value.

Purgatives are of great importance in the treatment of arterial Dropsy, and I presume their efficacy depends on that effect upon the general system which induces us to employ them in fevers and inflammations. As they are scarcely less serviceable in Dropsies of the second class, they may with propriety be considered as among the safest and most generally efficacious of all the plans of treatment adopted in this disease. Elaterium appears to possess a power over the arterial system, but little inferior to that of digitalis.* On this account it is frequently very advantageously employed in Dropsy. Colchicum is another powerful medicine of the same class, whose primary agency seems to be upon the circulating system. I have seen it useful in various forms of Dropsy, particularly anasarca, and that species of anasarca which succeeds or accompanies chronic rheumatism.

The treatment of those cases of Dropsy which result from impediments to the motion of the blood through the veins, is to be conducted on

* I am indebted for this observation to Dr. Ash.

different principles. The chance of success here is much less than when the Dropsy is of the arterial kind. Purging has the strongest claims to our confidence. In almost every case of this kind which my notes record as having terminated favourably, the success may be attributed to purging either spontaneous, or produced by medicine. But it is a practice not wholly devoid of danger. I have seen it carried so far as to bring on a diarrhoea, which nothing could check. It has appeared to me to be particularly applicable to those cases of Dropsy which originate from the excessive use of spirituous liquors.

Mercury is useful in venous Dropsy depending upon a disorganized state of the liver, but I am disposed to condemn its indiscriminate employment in Dropsy, with the view of stimulating the absorbents. Upon this, infinitely too much stress has been laid. When the balance of the circulating system is properly regulated, the absorbents will very quickly do their duty. We have had occasion too to notice some states of disease requiring antihydrotic medicines where no water is effused, and where of course it would be unnecessary to stimulate the absorbents.* Our attention in Dropsy in short should

be more directed to the prevention of further effusion, than to the removal of water which has already accumulated. In a case detailed by Dr. Crampton,* we have a well marked instance of the inefficacy of mercury as a general cure of Dropsy. Squill is a valuable medicine in several forms of Dropsy, but I am at a loss how to give any adequate explanation of the mode of its operation. It is a matter deserving of further enquiry.

When the effusion of water depends on a general state of weakness and atony in the system, your object must be to give it strength by aromatic and tonic medicines, and to rouse the action of the kidneys by the true diuretic medicines, which are chiefly some neutral salts, and certain stimulating vegetables, particularly juniper. The spiritus ætheris nitrosi, in combination with the aromatic confection, has appeared to me to be an excellent form of administering these drugs, but their selection and combination may be safely left to your own discretion.

Having now gone through the most interesting of the topics which suggest themselves on a review of the pathology of Dropsy, it only remains for me to say, that however imperfectly I may

* Clinical Report on Dropsies. Page 61.

have filled up the *hiatus valde deflendus*, which I stated to you in the outset of this lecture to exist there, I shall have attained my object, if I have succeeded in fixing your attention upon a very interesting part of the science of medicine. I trust that the time is not distant when the pathology of many other obscure parts of it will be more clearly developed, and when improvements, such as have lately been witnessed in the surgical branch of the profession, and of which we have such excellent specimens in the late essays of Mr. Hodgson and Mr. Brodie, will extend also to diseases that fall under the cognizance of the physician, and be attended with equally beneficial results.*

* It is with the greatest pleasure that I have perused the recent publications of Dr. Armstrong and Dr. Bateman on Fever, and the papers on Apoplexy and Chronic Inflammation of the Brain, by Dr. Abercromby in the Edinburgh Medical and Surgical Journal. These works *shew the possibility* and give the promise of much improvement in medical pathology.

THE END.

POSTSCRIPT.

IT was not until the whole of the first sheet of this paper had been printed off, that I met with some valuable observations on Dropsy, by Dr. Abercromby, published in the Edinburgh Medical and Surgical Journal for April, 1818. They bear directly upon different points which have been alluded to in the foregoing pages, and had I been earlier acquainted with them, I should have felt it right to take a more particular notice of them than I can now do. The acute form of Dropsy which Dr. Abercromby describes with great ability is not uncommon, and his views regarding its pathology and method of treatment appear to me to be highly judicious and important.