CLINICAL LECTURES

ON THE DIAGNOSIS OF

EXTRAPELVIC TUMOURS OF THE ABDOMEN.

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(Reported by W. RICHARDSON GOWER, ESQ.)

LECTURE III.

Diseases of the Spleen causing Tumour in the Abdomen—Case of Emma H.—Case of Mrs. B.

GENTLEMEN,—I have hitherto been describing those general physical characters from which I conclude that an abdominal tumour is formed by increase in size or displacement of some normal part of the abdomen, *e. g.* liver, spleen. Now I have to speak of particular organs as causing abdominal tumour, and to bring under your notice any special cases of tumours of the abdomen which may illustrate the subject. And while doing this, I shall refer to the various diseases of the organs, but only so much as seems to me to be of practical value, and so much as I think you should positively learn in order to become yourselves practitioners of medicine, and so much as I use in every day practice.

I commence with the spleen, because we have recently had in the wards some cases of acute and chronic enlargement of the spleen.

The spleen, you know, is a ductless organ; its function is doubtful, its structure, for our purpose as practical pathologists, but imperfectly known. We can go through every part of the kidney, we can distinguish the special diseases of each part, the diseases of its vessels, the diseases of its cells, the diseases of its membranes. Of the spleen, it is not so. Of the kidney, we can tell you to a certain degree the functions of its several parts; of the spleen, we cannot. The spleen has been extirpated in the human subject, and the patient has lived thirteen years and a half, and enjoyed health. The conclusion is that, whatever the functions of the spleen are, some other parts of the body can perform those functions. It is in consequence of there being much doubt as to the functions and the structure of the spleen, that its diseases are necessarily ill-defined from each other. Pathological research has taught us something about the functions of the spleen. There is no question that it is in some way connected with the making or the destruction of blood—of the red corpuscles, and of the white. There is one remarkable disease of the spleen in which there is a great excess of white corpuscles—leukæmia; and in this disease the excess occurs, without doubt, from disease of the spleen; and that not as a remote consequence, but directly from the disease. There seems to be a relation between the function of the spleen and the function of the lymphatic glands; for the same condition—excess of white corpuscles in the blood—exists as the result of disease of the lymphatic glands, without there being any disease of the spleen. There seems to be a relation, too, between the functions of the spleen and of Peyer's patches, and, it may be, of other parts of the intestinal canal. And you know that there is considerable difference of opinion in regard to their functions. There is nothing distinctly known; but observation of disease lends support to the opinion that the functions of these distant parts are related to each. It is a point of considerable interest, that the spleen, the lymphatic glands, and Peyer's patches all suffer involution at the same period of life—about fifty. At that time, the spleen grows smaller, the lymphatic glands waste, and Peyer's patches smooth down and lose their peculiar structure; and that is about the period of life at which the diseases, and especially typhoid fever, in which these three parts are involved, cease to be common.

When considering diseases of the spleen, bear in mind the anatomical relations of the spleen to other parts. Certain diseases of the liver interfere with the return of blood from all the radicles of the portal vein; hence ascites is a common consequence of many diseases of the liver. Diseases of the spleen cannot interfere in the least with the portal circulation; hence one cause why ascites is no character of splenic disease. And you will remember the very thick capsule of the spleen. This capsule prevents the congested spleen from relieving itself, if I may say so, by the escape of fluid into the abdomen, in the way that a congested lung often relieves itself by fluid exuding into the pleura, or a congested intestinal mucous membrane may relieve itself by the escape of fluid,

causing serous diarrhoea, or a congested peritoneum by effusion of serosity into its cavity. The vessels of the substance of the spleen cannot thus relieve themselves; and this is another reason why ascites does not follow on splenic disease.

You must bear in mind, also, the relation of the spleen to the portal circulation, and so to the liver. The blood returning from the spleen has to go through the liver; hence impediment to the passage of blood through the liver is attended with enlargement of the spleen—*i. e.*, with mechanically induced congestion, and the chronic changes consequent on it. Hence, in cirrhosis of the liver, one of the symptoms is enlarged spleen. Hence, in mechanically induced congestion of the liver, and of the radicles of the portal vein—as, for example, in certain forms of heart-disease, and in emphysema of the lung—enlargement of the spleen is a common consequence. The splenic blood has to pass through the liver; and anything that leads to overloading of the veins of the liver will necessarily lead to overloading of the veins of the spleen.

Then remember its relation to the stomach. I cannot tell you its exact physiological relation; but we know that it is intimately related anatomically by the vasa brevia; and that, in a certain stage of the digestive process, the spleen increases a little in size. Its mechanical relation to the stomach, too, is important, since vomiting from mechanical disturbance of the stomach is not an uncommon symptom in splenic enlargements.

Again, it is related in position to the diaphragm; it lies in contact with the diaphragm. In the boy who was recently in the hospital, and who died, you may remember that we found that adhesions had formed between his diaphragm and his lung; and the inflammation had extended through the diaphragm to the peritoneum, and afforded us a good illustration of an inflammation of a serous membrane by extension, and the little tendency that these inflammations have to spread. This latter is a point of great practical importance. You puncture a man's abdomen who has some general disease, and you injure his peritoneum; and inflammation, starting from one point, spreads all over the membrane. In the other case, there is inflammation of the part of the membrane covering the diaphragm, and it spreads no further. This boy had had pleurisy at some period. The inflammation had extended through his diaphragm; and inflammation of the serous membrane covering the diaphragm, and of that covering both spleen and liver, had taken place, resulting in adhesions. The inflammation did not, you will observe, spread over the peritoneum. I told you, in my last lecture, that adhesions were not so common between the spleen and the adjacent peritoneum as between the liver and the adjacent peritoneum. I referred—not so much to extension of inflammation through the diaphragm, for that is not very uncommon, though it is still more common in the liver—but rather to the friction-adhesions, and to adhesive inflammation of the capsule of the spleen and adjacent parts from disease of the spleen itself. These are uncommon in the spleen. We have in this drawing a good illustration of adhesion of the spleen to the peritoneum; but that is in tubercular peritonitis, where it is common enough to find a spleen united to all the adjacent parts by adhesions.

Then remember that the relation to the diaphragm is such as to give rise to a mistake occasionally. Fluid in the pleura may depress the spleen, and so cause, *it is said*, a splenic tumour. I doubt, however, whether the spleen is ever enough depressed by effusion of fluid into the pleura to cause a tumour.

Then the anatomical relation of the spleen to the adjacent colon is to be remembered. The woman to whom we shall refer presently had the colon overlying the lowest part of her spleen; and the spleen was, in consequence, less easily touched, especially when the colon was distended with flatus. It was said, in the notes taken during life, that the woman's spleen varied very much in size. I doubt if it did, judging from the *post mortem* examination. I think that the spleen was more perceptible at one time than at another. I think, from the anatomical condition, that it was very little temporarily extensible. The differences in the size of the spleen, supposed to have been observed during life, were due to the organ being overlapped at its lowest part by the colon, and so less easily felt at one time than at another. Pain in the left part of the arch and the upper part of the descending colon, and pain from stretching of the costocolic ligament, as well as pain from flatus in the fundus of the stomach, may be supposed to be splenic pain.

I have already referred to the anatomical relation of the spleen to the kidney, and to the possibility of an enlarged spleen being confounded with a renal tumour, or with a tumour of the suprarenal capsules.

There are two great orders of spleen-tumours, acute and chronic.

Acute enlargement of the spleen may be the result of splenitis from direct injury. This form of splenitis, however, is rare, and, when it occurs, is generally complicated with some surgical injury, which takes it out of our province, and throws the splenic enlargement into the

shade. Acute enlargement of spleen is by no means uncommon; but it is always secondary to some other disease, and especially to diseases which have one peculiar and common feature. I should have formerly said, to the acute specific diseases; but we have something better than that by which to characterise them. They are all diseases marked by elevation of temperature, without local lesion to account for the elevation. For example, acute pleurisy is a febrile disease, with a local lesion to account for the elevation of temperature; a pneumonia, a febrile disease, with a local lesion to account for it; but a case of erysipelas of the head and face, where perhaps the erysipelatous inflammation is a little blush across the bridge of the nose, is a disease with elevation of temperature, without local lesion to account for it. So, likewise, are typhus fever, pyæmia, acute tuberculosis, diseases attended with elevation of temperature, without local lesion to account for it. This great group does include all the acute specific diseases; but you will see that it includes something more. It contains pyæmia, ichorrhæmia, septicæmia, and the whole of that order of cases. It includes acute deposit of tubercle, and certain cases of purpura and of scurvy even; intermittent fever comes into the same group. In a large number of these diseases, there is enlargement of the lymphatic glands of the abdomen, and a tendency to disease of Peyer's patches.

Again, in almost all these diseases there is a tendency to hæmorrhages; in almost all there is a malignant form, where hæmorrhages occur from the nose, from the gums, from all parts of the body. In small-pox, for instance, this is sometimes seen. I have seen a case of a malignant form of that disease in which a bloody fluid issued from the eyes, from the nose, from the mouth, from the vagina, from the rectum, from the skin. In all, there is a tendency to real hæmorrhage, as well as to the escape of a solution of hæmatosin in the more malignant forms. Again, in almost all, there is excessive formation of red corpuscles and a deficiency or change of fibrin. Now, we have seen the relation of the spleen to the blood-making process; and we see that in these diseases, in which the chemical constitution of the blood is changed from an early period, it is the spleen that is damaged; and with this damage to the spleen we have alteration of fibrine and excess of red corpuscles. When acutely enlarged, the spleen is usually tender, sometimes very tender. After death, it is found dark in colour, and softer than natural.

And now let us turn to chronic tumours formed of the spleen. Enlargement and induration of the spleen result from various diseases that cause more or less continuous or remitting congestions of the organ, either by a mechanical or by a so-called vital process. Thus intermittent fever, certain forms of heart-disease, and cirrhosis of the liver, are all accompanied by congestion of the spleen; all have a tendency to produce repeated congestions, long continued congestions, and thus to induce chronic changes in its structure—induration. There is no doubt that chronic congestion of the spleen leads to thickening of the fibrous tissues, especially of the trabeculae and of the subperitoneal fibrous tissue. Then there is albuminoid infiltration of the spleen, with which we are all familiar, increase in size of the spleen, so very common in rickets. There is the so-called "sago-spleen", said to be partial albuminoid disease. Then there are the peculiar changes (excess in cell-elements) in the structure of the spleen that occur in leukaemia.

One of the most common characteristics of chronic spleen-disease leading to induration symptoms is anaemia—hydro-oligo-cythæmia, if you please—a deficiency of red corpuscles, and all the consequences of this. It is to these secondary changes in the blood that what little anasarca ever is observed is chiefly due.

Secondly, we see a disposition to hæmorrhages in chronic spleen-diseases; and whenever—and this is a practical point for you—when ever a patient complains of hæmorrhage here and hæmorrhage there, for which you see no direct cause, always examine the spleen. There is hæmorrhage from the gums, from the nose; and it may, in spleen-disease, even occur into the serous cavities, *e.g.* the pleura. A great cause of the tendency to hæmorrhages, then, is the excess of white corpuscles, which may even exceed in number the red. So far as I have seen, without chronic disease of the spleen or of the lymphatic glands, if you take a drop of blood and pass it under the microscope, so as to examine the whole field, you do not get more than fifty, using the quarter-inch lens. I have seen that in pneumonia, and in some strumous persons especially; and in these I think it is due to the state of the lymphatic glands of the bronchi. But, if you find a larger number, the probability is that you have to do with some chronic disease of the spleen or glands.

Again, it is said that, in certain cases of spleen disease, you find masses of pigment in the blood, the remains of destroyed blood-corpuscles. Of that I know nothing from my own observation. Then the colour of the skin is said to be peculiar in these chronic cases of spleen-disease. Of that I have myself only seen anaemia which could be attri-

buted to the splenic affection. The rest has been due to the natural tint of the skin, or it has been due to the conjoined hepatic disease, or to conjoined disease of the suprarenal capsules, or to some other affection. It is said, however, that there is a peculiar brownish tint of skin in some cases of splenic disease.

With reference to the question of extirpation of the spleen, I should remark, that you must make a distinction between the effects of loss of an organ and the effects of disease of that organ. It has been thought that some of these conditions could not have been due to disease of the spleen, because it could be taken away without any material effect on the system. Therefore it has been said that disease of the spleen cannot seriously affect a patient; but it is quite clear—supposing, for a moment, the function of the spleen, in addition to other organs, to be the power of making white corpuscles—it is clear that, if you take away the spleen, it is quite possible that the other organs may supplement the spleen, and may make a full quantity of white corpuscles, and the patient suffer nothing. But suppose a disease of the spleen in which there is an excessive quantity of white corpuscles formed in it: you have the excess in the blood, with all its consequences. It is from a consideration of these two facts—viz., that the spleen has been removed without injury to life, and that the disease of the spleen leads to death—that I sanctioned in one case, and would again sanction, the removal of the spleen in cases of leukaemia.

As to the local symptoms of chronic enlargement of the spleen: there is a feeling of weight in the left hypochondriac region—a feeling of distension and uneasiness there. There is an absence of pain—actual pain; an absence of tenderness; an absence of dropsy; an absence of fever. The last point, however, admits of some question, especially in regard to leukaemia. Observations with the thermometer have not yet been made with sufficient accuracy to establish the absence of a certain amount of febrile disturbance, while there are some observations on record which point to some cases of leukaemia having been attended with irregular febrile disturbance.

(To be concluded.)

THERAPEUTICAL MEMORANDA.

[Under this head, we shall publish from time to time, as materials accumulate, short records of remarkable cases in practice which are sufficiently rare, interesting, or instructive, to deserve record, but do not call for lengthened statement or comment. Brevity and point should be the valuable characteristics of cases forwarded for this column.]

TONICS IN DROPSY.

By R. S. Sisson, M.D., Maida Hill.

I AM glad to find that the profession are, at last, beginning to recognise the value of tonics in certain forms and stages of dropsy. I say certain forms and stages, because there are some forms of dropsy in which diuretics are useless and tonics curative; whilst in other forms the effusion can only be removed by diuretics, and reaccumulation prevented by the employment of tonics.

In 1860 I was called to a patient whom I found in bed, presenting the following symptoms:—face much bloated; abdomen very protuberant; body generally anasarous, with large dropsical swellings in depending parts; much emaciation in the parts not concealed by effusion; great dyspnoea; intolerance of the horizontal position; incessant cough, thin and frothy expectoration; great pain in the chest; on percussion, marked dullness on the right side, over the lower half of the lungs posteriorly and anteriorly; loud crepitations; mucous râles; pulse 100, feeble; turbid scanty urine of dark brown colour, not coagulable by heat and nitric acid; liquid, dark, and offensive stools. The heart-sounds were weak, but normal.

Under the usual routine treatment, the more urgent symptoms disappeared, but the legs became enormously distended. Having satisfied myself that no organic disease existed, I concluded that the dropsical effusion in this case depended upon some pathological condition of the blood; and accordingly I prescribed the muriated tincture of iron. Under this treatment the patient made an excellent recovery, and up to this date has had no return of her complaint.

This case is reported at some length in the *Lancet* 1860, v. 2, p. 132, and is of further interest from the fact that an ovarian tumour, of many years standing, disappeared during treatment.