CLINICAL LECTURES

ON THE DIAGNOSIS OF

EXTRAPELVIC TUMOURS OF THE ABDOMEN.

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LECTURE II.

The Physical Characters of Tumours formed by the Spleen—by the Mesenteric Glands—by the Pancreas—by Aneurism of the Abdominal Aorta and its Branches—by the Kidneys.

IN health, the spleen is not perceptible to the touch. If you can feel the spleen, it is diseased. In health, there is a space of about two inches over the spleen, more or less deficient in resonance; this region of imperfect dulness has its lower border near to the eleventh rib; its inner and outer borders correspond to the inner and outer margins of the axillary lines. When the spleen is enlarged, the resilience of the ribs over the spleen is diminished. In some healthy persons, the size of the spleen can be tolerably well defined by percussion; in others, it cannot. Whether the size of the spleen can, or cannot, be thus defined by percussion, depends on the shape of the thorax, on the size of the lung, and on the degree to which the diaphragm is arched. For on these points will depend whether the spleen lies in contact with the chest-walls, or is, to a great extent, borne away from them.

A moderately enlarged spleen forms a tumour in the abdomen, situate on the left side, and passing upwards under the margin of the thorax. Even when of moderate size, the tumour lies near the surface; there is no intestine in front of it. In these particulars, it differs from the kidney. It has a sharp anterior margin; and in this also it differs from the kidney. The anterior margin of the tumour passes from above downwards and inwards. Sometimes, but only infrequently, one or more notches can be felt in this border; when felt, the notch is quite characteristic. The lower border of the splenic tumour is rounded; the posterior border is to be felt, but not so distinctly as the anterior and lower borders. The fingers can, however, always be passed in behind a tumour formed by an enlarged spleen. You feel the resistance of the spleen as you pass your hand back and back till you reach the space just outside the mass of muscles that lie in the spinal groove, and there you find a narrow space where there is very little resistance; the anterior border of this space is found by the posterior border of the spleen. Having one hand on the posterior border of the tumour, and the other in front on the anterior edge of the tumour, you find that it is moveable from side to side. You can push the anterior border towards, or away, from the middle line; you move the spleen thus when it is enlarged, because it is very rarely indeed closely adherent. You know how loosely the spleen is attached by its mesentery; and it is infinitely rare for inflammation of the capsule of the spleen to be followed by adhesions sufficiently short and numerous to destroy its mobility. If a large liver chafe against a portion of the thoracic parietes as it rises and falls during respiration, the irritation usually produced leads to adhesions. The same is the case with the masses of calcareous matter, or even induration-knots, produced occasionally in the lungs, which chafe up and down against the ribs during inspiration and expiration, and give rise to adhesions. But the big spleen has merely a thickened white patch at the spot where it rubs against the rib, or margin of the thorax, as it rises and falls with the rise and fall of the diaphragm. This white patch may be even a quarter of an inch in thickness. The white patch so common on the convex surface of the indurated or enlarged spleen, the white patch less common on the liver, the adhesions over certain lung-indurations, and the white patches so common on the heart, are all equally due to attrition.

Whenever the spleen is considerably enlarged, it passes down below the margin of the thorax. A moderately enlarged spleen may not; for the organ may be kept in place by the costo-colic ligament. You know that fold of peritoneum, which English anatomists talk so little about, but which is so important to us as physicians, the fold of peritoneum which passes from the left angle of the transverse colon to the last rib; so marked in the child, and which remains in some adults as a fold of

peritoneum of some breadth—it did so in the woman whose *post mortem* examination we made on Saturday. When the spleen enlarges, it rides over the anterior border of that ligament, and is thus carried forward more than it otherwise would be. The kidney, as I said, always lies close to the middle line, and there is never any space between it and the mass of lumbar muscles. There is always space between the spleen and those muscles; and one reason for this is, that the costo-colic fold of peritoneum bears the spleen a little forwards. It is that, also, which gives the direction (oblique and inwards) to its anterior edge, or, at any rate, assists in doing so when the spleen is sufficiently enlarged to ride over its anterior border.

As the spleen all but always descends below the margin of the thorax when it is much enlarged, if you have a considerable degree and extent of dulness on percussion in the situation of the spleen, you would examine very long and carefully before you concluded the dulness to be due to the spleen. You would first exclude all other things, because, with such an amount of dulness, the spleen ought to descend and to be perceptible to touch—ought *certainly to be felt at the termination of deep inspiration, i.e.*, when it is forced down to its lowest level by the descent of the diaphragm. I have seen cases, in times gone by, in which I should have been saved from falling into error if I had known this. For instance, I remember one case well. A gentleman was supposed to have an enlarged spleen. There was nothing abnormal to be felt in the abdomen; but there was dulness in the situation of the spleen. It proved, on *post mortem* examination, that the dulness, instead of being due to the spleen, was caused by a large cancerous mass in the fundus of the stomach. It was the fundus of the stomach which was the dull part. Still, a moderately enlarged spleen may not descend low enough to be perceptible to touch; and, in very rare cases, a spleen considerably enlarged *may* not descend. I made a *post mortem* examination in the hospital some time since of such a case; the lowest point of the spleen adhered to the stomach, and so the organ was kept up above the margin of the thorax.

In consequence of the position of the spleen, its anatomical relation to the diaphragm, the spleen is one of the organs most affected by respiration; it moves up and down most markedly with each ascent and descent of the diaphragm. It is the friction produced by this movement that so often leads to the white patches on the enlarged spleen from thickening of the splenic capsule. The woman had one whom we examined the other day.

A difficulty is sometimes thrown in the way of the diagnosis of splenic tumour by enlargement of the liver. It is commonly said to exist when the left lobe of the liver is enlarged; but, whenever the left lobe of the liver is enlarged sufficiently to cause difficulty in diagnosis, the right lobe is also enlarged. The liver then extends very considerably to the left, and underlies the spleen; so that there is a little difficulty in feeling the anterior edge of the enlarged spleen. In such cases there may be a practical difficulty in the way of diagnosis. If in doubt, endeavour to find the edge of the spleen by passing your left hand from right to left; you will find it ride over something where there is a little elevation. Then, by putting the right hand behind the spleen, and tilting it well forward, you may move the anterior edge over the surface of the liver. Again, make the patient breathe deeply, and you may possibly find the spleen descending more than the liver. Once have your mind awakened to the possibility of confounding the left lobe of the liver with the spleen, and I do not think you will fall into the mistake.

When the spleen is enlarged from acute disease, it is almost always tender, as in continued fevers. In splenitis from pyæmia the spleen is tender; but the patient is commonly so ill from the primary disease and the earlier established secondary lesions, that the splenic affection is overlooked. The spleen is very rarely, if ever, tender when enlarged from chronic disease of its substance. At the same time that you are ascertaining the size, edges, and moveability of the spleen by palpation, you appreciate its thickness, its consistence, its elasticity, and whether the surface is smooth or nodular.

An abdominal tumour may be caused by enlargement of the mesenteric, or other lymphatic glands. There is no mistake more commonly made than that of attributing the big belly of children directly to enlargement of the mesenteric glands. Let it be impressed on your minds that I, with ten years' experience of the Children's Hospital, and no little experience among children since, do not remember ever to have seen a child whose large abdomen was directly due to enlargement of the mesenteric glands. So enlargement of the abdomen *directly* resulting from so-called mesenteric disease—*i.e.*, tubercular disease of the mesenteric glands, must be uncommon. I have examined a great number of these children after death, and neither during life nor after death have I seen what could be called a big belly which was the direct result of disease of the mesenteric glands. When the mesenteric glands are greatly enlarged from tubercular or other disease, they lie back close to the spine. They do not come forward; they go

backward. The mesentery seems to open for them, so to speak, and the enlarged glands lie close to the spine, and in front of them lie the intestines. The big belly is the result of imperfect digestion, and of the weakening of the intestinal and of the abdominal walls, so that the child makes too much wind, and is unable to expel the flatus from its bowels. The disturbed digestion causes the generation of excess of flatus; the weakened intestinal walls and the weakened abdominal walls do not readily expel it. To detect enlarged mesenteric glands you have to feel for them carefully. The enlarged glands do not come near the surface like the spleen, which you cannot fail to find at once, though you may mistake the nature of the tumour. To feel a tumour formed by enlarged mesenteric glands, put the patient on the back in a proper position, and then suddenly depress the walls of the abdomen. You may thus come down, pushing the flatus away, upon a hard mass lying close to the spine. Enlarged glands may sometimes be detected by grasping the two sides of the abdomen between the hands, or between the fingers of one hand; and then by bringing the fingers slowly together, you may at last feel the glands between your finger, or, if greatly enlarged, as an unmoveable solid mass. By the manipulation I have described, you may feel very slightly enlarged mesenteric glands—*e.g.*, those the seat of albuminoid infiltration.

The great causes of chronic enlargement of the mesenteric glands are: albuminoid disease, tubercular disease, repeated inflammation of special sets of glands, malignant disease, and that hypertrophy which is accompanied by excess of white corpuscles in the blood—the glandular form of leukaemia. The albuminoid never attain any great size; you just feel them roll under your finger by manipulating in the way I have described. Distended tumours formed by enlarged lymphatic glands are nodular, the nodules being large and round. This drawing shows how impossible it may be by palpation to distinguish an enlarged gland from a kidney, and how impossible it may be to distinguish enlarged glands from an enlarged pancreas. When the lymphatic glands are large enough from chronic disease to form a distinct tumour, they are fixed, and can be moved neither by respiration nor, to any extent, by palpation. We now and then find a small tumour in the right iliac fossa caused by enlarged and indurated glands. The most common cause of glandular tumour in this situation is one or more attacks of typhlitis.

The healthy pancreas can now and then be just felt in very thin persons with small lax muscles, whose lower dorsal and lumbar vertebrae are somewhat curved forward. I may have satisfied myself that I have felt it half a dozen times in my life. The pancreas crosses the aorta and the spine, and when perceptible to touch, is felt on deeply depressing the abdominal walls about a hand's breadth above the umbilicus, by then rolling the subjacent parts under the hand (the stomach and colon must both be empty). I have known the pancreas of normal size, in such persons as I have described, mistaken for disease; it has been taken for malignant disease of the transverse arch of the colon, and for an aneurism of the abdominal aorta. The head of the pancreas may be so large, when the seat of cancer or of tubercle (I have seen one case only of the latter), as to form a distinct abdominal tumour. The pancreas in health and in disease is fixed—*i.e.*, is unchanged in position by the respiratory movements or by palpation.

A distended gall-bladder has, there is no doubt, produced a detectable abdominal tumour able to be diagnosed, but such an occurrence is very rare. I not infrequently see cases in which it was supposed that an abdominal tumour was a distended gall-bladder, but I never saw after death a distended gall-bladder which had been diagnosed or which had produced a detectable abdominal tumour during life. When of large size, the tumour formed by a distended gall-bladder is pear-shaped; its small end is upward. It is seated just under the abdominal walls at the outer border of the right rectus muscle. It is smooth on the surface, free from tenderness, and very moveable by palpation from side to side, turning on its smaller fixed upper point. Now and then distinct fluctuation has been felt in it by percussion. Sufficient distension of the gall-bladder to produce a distinct tumour is usually the result of occlusion of the cystic duct, and effusion of serous fluid into the cavity of the gall-bladder. Tumours thus formed have attained the size of a child's head. A lesser degree of distension of the gall-bladder may result from occlusion of the ductus communis choledochus, and the damming back of the bile into the liver and gall-bladder. A just perceptible projection at the lower border of the enlarged liver to the outer border of the right rectus muscle is not uncommon when the ductus communis choledochus is closed. In the latter class of cases there is intense jaundice; in the former there are no other symptoms than such as may arise directly from the tumour interfering with adjacent parts.

Although, systematically, they ought not to be referred to here, yet clinically, tumours due to dilatation of the abdominal aorta and its great branches should be mentioned. It is a mistake into which

almost all young practitioners fall, to suppose that every pulsatile tumour they feel in the abdomen is a dilatation of the aorta. Remember that, although by no means to be reckoned among what are called rare diseases, aneurism of the abdominal aorta is not at all common; that you will meet with a thousand cases, I was going to say, of strongly beating tumour in the abdomen, before you meet with one case of circumscribed dilatation of the aorta. So, instead of being your first, it should be your last idea, that an abdominal pulsation is due to aneurism. An abdominal aneurismal tumour has two great characteristics, and both being present, you may make the diagnosis; but either of which being absent, would prevent you from saying that the tumour was an aneurism. First and necessarily, the tumour must be pulsatile; but you will, as I said just now, see numberless tumours which will seem to you to pulsate before you meet one aneurism. The essential point is that the pulsation of the tumour must be expansile. Grasp the tumour, and if it expands in all directions, you may conclude that it is a true dilatation of the aorta, an aneurism. All tumours that lie in front of the aorta pulsate, and often strongly; they transmit the pulsations of the aorta to the surface, and so feel as if they, in their own substance, pulsate. Then, again, remember that anæmic women have a strongly pulsating aorta; that persons with aortic regurgitation have a strong pulsation in the aorta; that persons at that period of life when the coats of the arteries are degenerating have a strongly pulsating aorta; and that in certain forms of dyspepsia the aorta pulsates so strongly, that patients will come to you for that special discomfort, a beating in the abdomen. Then remember, that if you suspect a tumour to be an aneurism, you feel for the expansile character of the pulsation. Failing to detect that, you pause and look for other causes rather than aneurism to explain the phenomenon. The diagnosis of aneurism can never be held as *certainly* correct till you have felt this *expansile* pulsation.

Incidentally, I may mention—for we shall have to consider the subject again, when we meet with special cases—that, if the stethoscope be placed over the abdominal aorta in front, in some healthy persons, a loud systolic murmur may be heard from the pressure exerted on the vessel. The more anæmic the patient, the laxer the coats of the artery, the more certainly will a murmur be produced. Now, if you are suspecting the existence of aneurism, and hear a *bruit* at the spot, I advise you to do what I always do under these circumstances—*viz.*, listen in the back, examine down the spine; and, if the murmur heard in front is generated in the aorta—if it is from an aneurism, for example—you will hear it behind; and behind you cannot press on the aorta yourself so as to cause a murmur, or to intensify by pressure any murmur that may be caused in another way. In this way I have come to a diagnosis, which otherwise I should have failed to make. In an anæmic woman, there is a murmur heard in the back, though the slightest pressure in front produces a loud *bruit*. The louder the murmur in front, supposing it not to be heard in the back, the less likely is the murmur to be due to organic disease.

I shall now point out to you the general characters of tumours due to the enlargement of another organ—*viz.*, the kidney.

As to the seat of the kidney: the twelfth rib crosses it posteriorly. Formerly, physicians determined the size of the kidney by percussion; or rather, I should say, attempted to make out its size, for I never saw any one who percussed out the healthy kidney. I tried, but I never could succeed; and I do not believe anybody else ever did. But, by palpation, its size in all thin persons may be made out pretty certainly; and, if it be enlarged, made out easily. You place one hand, as I have often shown you, at the back of the patient, under the last rib, and outside the mass of the lumbar muscles in the spinal groove. The other hand you put in front of the patient, just over the hand behind, on the right side, just under the inferior border of the liver. Having put your hands in these positions, so as to have the kidney well between them, depress the hand on the anterior wall of the abdomen as far as possible, diverting the patient's attention, and removing the tension of the muscles. Then, having depressed that hand as far as possible, using all possible means to expedite and assist its depression, having brought it down as much as possible, tilt forward the hand that is behind; and in that way the kidney is brought well under the touch of the two sets of fingers—perfectly, in the great majority of cases.

Posteriorly, the region of the kidney is dull on percussion; and there is no line of resonance between the kidney-dullness and the spine. Again, there is no space between the kidney and the spinal-groove, muscles into which you can dip your fingers with little resistance, as there is between the spleen and the spine; and this is equally true of the healthy and of the enlarged kidney.

I told you that the kidney is moved a little by the respiratory movements. Sometimes it can be moved by the hand, and thus much more frequently than you would suppose. A moveable kidney is one thing; a floating kidney is another. We very rarely see or feel a floating kidney. I have never met with one after death, though I have felt

in a patient what has been supposed to be one. A floating kidney is a kidney that has a mesentery—a fold of peritoneum attaching it very loosely to the spine. A floating kidney, therefore, can be moved about to a considerable extent—to the extent of the length of its mesentery. A moveable kidney can only be passed up and down a little; it slips a little under your fingers. The cellular tissue in which it is embedded is loose in structure. If you have ever slipped a pea out of its pod, you have felt exactly the sensation that the kidney gives as it moves under the finger; it feels as if it were a smooth body in a smooth sac. It is not really so; but that is exactly the sensation. When the kidney is enlarged by disease, it is rarely moveable by respiration or palpation. When chronic changes sufficient to enlarge the organ have occurred, whatever their nature, adhesions sufficient to prevent movement usually form between the capsule and adjacent part. The loose connective tissue in which the healthy kidney is embedded becomes condensed.

Remember that people, the lower dorsal and lumbar parts of whose spines are curved well forward, have their kidneys very prominent. Now and then, you may even see their kidneys, the organs being of natural size. This anterior curvature of spine, with thin abdominal walls, is not very uncommon in women. I remember a case of this kind, which I gave to the students to report on, when I was examiner at the University of London. I asked for the diagnosis and treatment; and one of the examined told me it was an ovarian tumour, and he would cut it out. It was a kidney, I believe, perfectly healthy. It might have been such a kidney, however, as this preparation shows—an hypertrophied kidney, the hypertrophy dating from an early period, being perhaps congenital.

The kidney is rounded laterally, rounded in front, rounded at its inner border, rounded at its upper border, rounded at its lower border. You can feel the lower border, and you can feel the outer border. The inner border is usually lost against the spine; and the upper border cannot be felt, unless the kidney is displaced. It is important for you to remember that the kidney has no sharp edges. It is rounded on every side, and, in disease, never loses this peculiarity. There is a woman in the hospital who has a tumour in the left side of her abdomen, which is her spleen. She has one in the right side of her abdomen, which I advise you to feel. I was told that the tumour perceptible in the right renal region was the right kidney. Now, in this woman, probably a condition exists somewhat similar to that which existed in the man from whom this preparation was taken. The kidneys in this bottle belonged to a man who was seen by the late Dr. Bright. Dr. Bright thought that he had a large right kidney. You will note that the right kidney is of the size of a walnut, and the left kidney is considerably hypertrophied. The man died. I made the *post mortem* examination, Dr. Bright being present. As soon as I had removed the kidneys, he laughed, and said, "Well! I took a piece of the liver for the kidney." This woman now in the hospital was supposed to have a large right kidney. In her, however, the tumour is, as it was in Dr. Bright's man, a part of the right lobe of the liver. Although not very large, the tumour lies close to the right lateral wall of the abdomen—not a little way from it, as the kidney does; it touches the lateral abdominal wall. It comes outside the ascending colon; while the kidney, of course, would lie behind and extend a little inside it. Again, in this woman you can feel, by careful manipulation, an anterior or inner acute margin. Now, the kidney never has an acute margin. That acute margin altogether and absolutely excludes from the diagnosis enlarged kidney. In this woman, having once the cue to the real nature of the tumour, you can, by putting your fingers under the margin, trace the margin till you feel that it is continuous with the margin of the liver.

What you may mistake for the kidney, and what I have seen mistaken for it, besides this piece of the liver, are, stools in the ascending colon. Let me here, by the way, warn you against an error into which you are likely to fall, and I dare say some of you will fall, even after I thus tell you of your danger. It is that of thinking abdominal tumours, the nature of which you do not understand, are accumulations of feces. Decided tumours due to fecal accumulation are infinitely rare in practice. Did I ever see an accumulation of feces sufficient to cause abdominal tumour? Well, I have seen one—I may have seen two—but of no great size; and in neither was there any difficulty in determining the nature of the tumour. But I shall be within the mark, if I say that I have seen a dozen tumours that have been supposed to be fecal, and have been something else—a cancerous mass—and the woman purged for it; big spleen, and the child purged for it till it had bloody stools. So that you will understand that your tendency to err will be in that direction; and you will bear in mind that a distinct tumour due to an accumulation of stool is rare.

Then I have known tumours of the suprarenal capsules—a cancer there, for example—mistaken for a tumour of the kidney itself; and I

do not know how you are very well to distinguish them by the touch alone. The same is true of a diseased gland.

Again, abscess in the vicinity of the kidney may be mistaken for an enlargement of the kidney; but renal tumours never cause enlargement behind. A renal tumour is not visible in the back; it expands in front. A little greater fullness of the loin there may be, but nothing like tumour. This is an important point in reference to diagnosis. In my earlier days, I fell into the mistake of supposing two or three cases to be renal, in which there were projections behind, and in which I had felt a great mass in the region of the kidney, and thought, in consequence, it was all renal when it was really outside the kidney. I fell into this mistake, because it had never been impressed on my mind that renal tumours do not cause distinct posterior bulging; that tumours due to disease of the kidney enlarge in front, whilst abscesses and other lesions, which may simulate renal tumours, often cause considerable posterior projection.

Again, in regard of the diagnosis of renal tumours, remember that the colon lies in front of the kidney—the ascending colon in front of the right, the descending colon in front of the left kidney. The proximity to the colon renders the diagnosis between nephritic colic and intestinal colic sometimes difficult. Nephritic colic will cause loss of power in the colon, and so induces constipation; thus favouring the idea that the patient has intestinal colic. Again, collections of stool in the colon may be mistaken for an enlarged kidney. A large enema will solve all doubts on this point. In all cases of abdominal tumours, the nature and seat of which are obscure, it is right to have the bowels well emptied by a large simple enema and the bladder emptied by catheter. Remember that a person may have a collection of hardened feces, and yet be suffering from frequent discharges of small fluid stools.

The pelvis of the kidney often attains an enormous size from collections of fluid in it. The tumour thus formed may pass down into the iliac fossa, and up so as to be indistinguishable by percussion from the liver; but it rarely passes inwards beyond the middle line of the abdomen—never far beyond it, and never into the pelvis. But we will consider this kind of tumour hereafter.

CLINICAL 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.]

A CASE OF IMPERFORATE HYMEN.

By J. M. HEWARD, Stamford.

ON March 20th, 1868, I visited Miss —, aged 18, a tall, well-made, healthy looking girl, who was suffering from severe pain at the bottom of the back, and over the pubes. She had never menstruated. She had had pain of the same nature on previous occasions, but never so bad as now. In all other respects, her health was good. Treatment relieved the pain, but there was no appearance of catamenia. On April 11th the pain occurred again. At this visit I told the mother there might be some obstruction to the flow of the catamenia, such as an imperforate hymen, and requested to examine her daughter. This was not then allowed. On May 6th, I was hastily sent for; there was great pain, and the patient had just told her mother that there was a swelling at the lower part of her body. I now sent her to bed, examined and found a pyriform tumour, reaching from the pubes to the umbilicus. A small tumour, the distended hymen, presented at the vulva. I gave an opiate to relieve the present urgent pain; ordered an enema to be given; and a few hours afterwards I introduced through the distended hymen a trocar and cannula, of the size of a No. 10 catheter. After rather more than a pint of thick dark fluid had escaped I withdrew the cannula, and allowed the fluid to flow gradually, applying a bandage to the abdomen, with a pad over the uterus. At the end of twelve hours the tumour was only just perceptible above the pubes; the patient was free from pain and doing well, and continued so until the morning of the fourth day, when a most striking change occurred in her mental state. Formerly affable, cheerful, and talkative, she now was silent, shy, hiding her face in the pillow, very unwilling to answer my questions. The pulse was somewhat quickened, yet there was no pain, shivering, or sickness. The bowels were open, but the discharge had become thin, watery, and offensive. I at once, with a bistoury, slit up the hymen, forwards and backwards from the opening made by the trocar, and with the ordinary enema syringe, which was at hand, washed out the vagina with warm water; some offensive fibrinous clots escaped. I gave a little sherry, and left her. At my evening visit the mental gloom was entirely gone; she was comfortable in every respect. At the end of a month the catamenia appeared normally, and have done so ever since.