A CLINICAL LECTURE ON A CASE OF CHOLECYSTOTOMY.

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I HAVE selected for our consideration to-day a case of enlargement of the gall bladder sent to me by Dr. Swinhoe, of Swindon, with the following history:

Miss H., aged 56, had been subject to attack of pain in the right hypochondrium for four years. The attacks of pain lasted sometimes a week, the longest interval of freedom from pain being ten days. These attacks of pain were never followed by jaundice, and there was no history of the passage of gall stones.

Eighteen months ago a "tumour" the size of a walnut was noticed in the right hypochondrium, and it has gradually grown to the size of a pear. At the time of examination there was a smooth, pear-shaped swelling in the right hypochondrium, extending along an oblique line passing from the ninth rib to a point below the umbilicus in the mid-line. The lower end of the swelling was more or less globular, and the upper end appeared to pass under the liver, and to be covered with a pointed process of the same (linguiform process). With ordinary respiration the "tumour" was felt to be about half an inch to the left of, and half an inch below, the umbilicus; but on deep inspiration it moved downwards for about an inch and a half, and then the sulcus between the swelling and the liver was more easily felt. The upper end of the "tumour" appeared to be fixed to the liver, and though the lower end was more or less free, the swelling as a whole could not be pushed down into the pelvis or into the right flank. There was no tenderness over the swelling. The liver was not enlarged, so far as could be made out by percussion, and over the greater part of the "tumour" there was some resonance.

In this case diagnosis was made of "distended gall bladder, probably, but not necessarily, due to gall stones," and an operation was advised. Let us see on what grounds this diagnosis was made and how far it was corroborated at the time of operation.

Tumours of the gall bladder nearly always enlarge in a direction downwards and inwards from the ninth rib to a point just below the umbilicus, exactly as appeared in this case. I have seen a dilated gall bladder reach nearly as far as the pubes, and such enormous dilatations have been mistaken for ovarian cysts.

With such a swelling as was met with in this case almost the only things that could easily resemble a distended gall bladder would be: (a) Movable right kidney; (b) tumours (especially cystic) of the right kidney; (c) tumours of the pylorus; and (d) tumours of the liver itself.

A movable kidney can often be pushed down towards the pelvis, and when released it springs back in the direction of the right loin; on bimanual palpation (with one hand in the loin and the other over the swelling) its typical shape can be made out; its range of movement is greater than that of a distended gall bladder, and it is generally distinctly overlapped by the colon. By attention to these points there is not often any likelihood of confounding a movable kidney with the comparatively fixed pear-shaped tumour with its long axis in a line drawn from the ninth rib to a point below the umbilicus as we find in a distended gall bladder, and which existed in this case. Too much stress, however, must not be laid on the existence of resonance over the swelling, for the gall bladder frequently forms adhesions (to which reference will presently be made) to the neighbouring intestine, and especially the colon.

Kidney tumours can generally be felt in the loin, and, although they may grow downwards and forwards, they do so at a lower level than the line which has already been indicated as that which is so typical of enlargements of the gall bladder.

Tumours of the pylorus were easily excluded in this case, for none of the gastric symptoms found in association with pyloric stenosis existed.

It is not always possible to diagnose a distended gall bladder from tumours of the liver itself; but, as has already been pointed out, it was quite easy in the case before us to feel a sulcus between the swelling and the liver. Moreover, there were no nodular enlargements felt in the liver, nor did any symptoms suggestive of malignant disease of that organ exist. The conclusion, therefore, that the swelling was due to distension of the gall bladder was inevitable, and it remained for us to form some idea of the nature and cause of that enlargement.

The smooth surface and feeling of tenseness made it fairly clear that we were dealing with a fluid enlargement, and the absence of local tenderness suggested the absence of any inflammatory mischief—empyema of the gall bladder, etc. The swelling was therefore due to a passive distension of the gall bladder with either bile or mucus, the former caused by some form of obstruction in the common duct and the latter by some obstruction in the cystic duct.

Obstructions in the common duct—whether due to gall stones, stricture, or growth from within, or malignant disease of the head of the pancreas from without—would be associated with jaundice, but of this there was, and had been, none. The obstruction causing distension was therefore in connection with the cystic duct, giving rise to a condition known as hydrops, or dropsy of the gall bladder. Such obstruction might be produced by gall stones, stricture, or growth from within; or by faecal impaction in the colon, or the dependent position of the fundus of the gall bladder (aided, perhaps, by the dragging of adhesions) from without. Faecal impaction could be excluded, for the bowels had acted regularly, and no swelling of the colon could be detected. Tumours of the cystic duct are mere pathological curiosities.

We were left, therefore, to choose between obstruction of the cystic duct by gall stones, by stricture, or by kinking of the duct from the dragging of adhesions on the gall bladder. It was scarcely possible to say which of these various conditions might be acting as the cause of the mischief, and this difficulty was increased by the fact that stricture is almost always caused by ulceration produced by the passage of a gall stone, and adhesions are also produced by the prolonged irritation of gall stones setting up sufficient inflammation to spread through the walls of the gall bladder to the adjacent peritoneum.

Against the theory of the passage of gall stones was the fact that the patient had never been jaundiced; and against the actual presence of a gall stone was the fact that, unless associated with some more or less acute inflammation of the gall bladder (which apparently did not exist in this case), cholelithiasis is not generally associated with so marked an enlargement as was found.

On the other hand, there were one or two points that made it probable that gall stones had existed at some time or other. One of these was the presence of the linguiform process of liver—Reidel's lobe, as it has been called—which could be felt over the enlarged gall bladder and which was seen at the time of operation. This is very uncommon except in association with cholelithiasis, and is probably caused by adhesions of the fundus of the gall bladder to the margin of the liver, so that when the gall bladder enlarges it drags a portion of liver tissue with it. Another point in favour of the presence of gall stones at some time or other—though this was not discovered till the time of operation—was the existence of very numerous adhesions between the gall bladder and the adjacent colon, for such adhesions are not usually found except in connection with gall stones.

Without operation, therefore, it was not possible to feel sure as to which of these various causes was effecting the blocking of the cystic duct; but that was of small moment as regards the treatment, for operation (cholecystotomy) is demanded in all such enlargements as we have been considering owing to the danger of inflammation or rupture of the distended gall bladder.

In discussing the diagnosis of the case I have been careful to avoid all reference to exploratory puncture—its dangers are great, and it only needs mentioning to be condemned as a method of diagnosis or treatment.

Operation was accordingly decided upon, and an oblique incision some $3\frac{1}{2}$ inches long was made in the direction of the long axis of the swelling—that is, in a line extending from the ninth rib to a point just below the umbilicus. Numerous incisions have been recommended for the operation of cholecystotomy, but this one was chosen because it is practically parallel to the fibres of the external oblique muscle, and permits of easy separation of the fibres of the internal oblique muscle, which run at right angles to the line of incision. In this way the risk of the subsequent formation of a ventral hernia is diminished.

In such a case as we are considering there is no difficulty in deciding on the direction of this line of incision, but in cases

here there is no tumour we may take the tenth rib for a landmark, for, as Tillaux has pointed out, its tip can be felt to be prominent and movable, and a sense of grating is experienced when it is moved against the ninth rib, to which it is attached by a short ligament.

On opening the peritoneal cavity the fundus of the gall bladder presented, partly overlapped by a linguiform process of liver, and having numerous adhesions to the colon below. The significance of the linguiform process and of the adhesions has already been referred to. The forefinger was then passed along the ducts up to the foramen of Winslow, which could only just be reached, but as it was not necessary—for reasons already given—to make a thorough examination of the common duct, there was no need to enlarge the incision for this purpose. So far as the finger could examine the ducts, no stone was felt.

The gall bladder—after placing a sponge below it to prevent the escape of any fluid into the peritoneal cavity—was aspirated, and 7 ounces of an opalescent mucoid fluid were withdrawn. This fluid was alkaline, had a specific gravity of 1.010, was not ropy, and showed no trace of bile. This last fact need cause no surprise, for in cases of blocking of the cystic duct (which we are considering) no bile can enter the gall bladder, and the distension of that organ is brought about by the gradual accumulation of the secretion of the mucous membrane with which it is lined.

After the withdrawal of the fluid the gall bladder was incised at the end of the fundus, this spot being chosen because the gall bladder is often considerably drawn up under the liver after it has been emptied of its contents, and unless the incision is low down there would be a difficulty in attaching the gall bladder to the parietal wound. The forefinger was then passed into the gall bladder to explore it, and the ducts were again examined outside, but no sign of stone could be detected except some slight brownish *débris* from the neighbourhood of the orifice of the cystic duct. A probe was passed through the opening in the gall bladder and along the cystic duct, and by this means it was made clear that there was no organic stricture.

It was probable, therefore, that the obstruction of the cystic duct had been brought about by the dragging on the gall bladder caused by the adhesions to the colon which have already been described. That these adhesions may have been caused by the existence of gall stones at some time or other is probable, though I could discover none at the time of operation.

The case then proved to be one of simple hydrops of the gall bladder caused by some kinking of the cystic duct from the adhesions between the colon and the gall bladder. I therefore determined to attach the opening of the fundus of the gall bladder high up in the parietal incision—to prevent, if possible, any further dragging upon the organ and a recurrence of the mischief. At the same time the gall bladder was drained in order to carry away any fluids that might collect after operation, and which might otherwise escape into the general peritoneal cavity. The gall bladder was sewn to the peritoneum and transversalis fascia only, by a running catgut stitch which when pulled tight fitted closely round the drainage tube which had been placed within the gall bladder. The opening in the gall bladder should never be brought up to the skin, as under such circumstances a fistula is likely to form and to necessitate an operation for its closure.

The rest of the wound was closed with silkworm-gut stitches in the ordinary way. The tube in the gall bladder was left long, so that its outer end might be conducted to a wide-mouthed bottle kept by the side of the patient. The wound itself was thus kept dry and free from the discharges from the gall bladder which escaped into the bottle through the tube. It is now four days since cholecystomy was performed, and bile-stained fluid has been flowing through the drainage tube ever since. This fact is most important, for it shows that the cystic duct is patent, and that the theory of kinking of the duct from the dragging of the adhesions on the gall bladder was probably correct.

You will notice that the patient presents a slight icteric tint. This came on the day after operation, and is already rapidly disappearing. It was doubtless due to the manipulation of the ducts during their examination at the time of operation.

The drainage tube will be kept in the gall bladder for about a week; when, if all goes on favourably as at present, it will be removed, and the fistula allowed to close gradually.

This case was a very ordinary one of distended gall bladder, but it was produced, as we have seen, by a most unusual cause. Almost all such cases are dependent upon the presence of gall stones in the cystic duct; but I have here a collection of twenty-eight gall stones which I removed from a patient a few months ago, and in which case one of the largest stones was firmly impacted in the cystic duct, from which it was removed with some difficulty. In this instance a lady 63 years of age had had a swelling of the gall bladder for nearly twenty years, but about three weeks before I saw her the swelling had begun to enlarge rapidly, and rigors and high temperature had supervened. In short, an inflammatory condition had been set up in the quiescent hydrops of the gall bladder, suppuration followed, and a condition known as empyema of the gall bladder was established. Such a condition, unless speedily operated upon, is fraught with danger, and the case serves to exemplify one of the risks of an apparently simple disease. After the removal of 9 ounces of thin pus and the twenty-eight gall stones the gall bladder was drained for eight days. The fistula itself healed in the course of a month, and the patient has been well ever since. Cultures from the pus in this case at the time of operation showed numerous colonies of the bacillus coli communis, which probably served as the immediate cause of the suppuration. It is interesting to note that in this case also the linguiform process of liver, to which reference has been made, was present.

[Note.—The tube in the case which forms the basis of this lecture was removed on the eighth day after operation. The patient got up on the fourteenth day, and went home with the fistula healed on the twenty-first day. Bile was discharged through the tube or wound for about a fortnight after operation. Some time later Dr. Swinhoe reported that the patient was continuing in perfect health.—J. S.]

REMARKS ON THE PATHOLOGY OF ACUTE YELLOW ATROPHY OF THE LIVER.

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THE following clinical note of the case of acute yellow atrophy of the liver on which this paper is founded is by Dr. D. C. McVail, Physician to the Glasgow Royal Infirmary.

Lizzie J., aged 15, was admitted to the Glasgow Royal Infirmary on September 16th, 1899. She had general dropsy—excluding the face—and ascites. She had always been delicate, and had had measles six years previously. In February, 1899, her eyes became "jaundiced" and her urine brown in colour. She had swelling of the feet at that time which disappeared in a few weeks, but returned again two months ago after a chill, and has remained till the present. Diarrhoea set in a month ago and has been severe. There is no history of rheumatism. Patient is the eldest of her family, of whom the others are healthy. Her father and mother living and well.

State on September 17th.—She is thin and very weak, but not suffering from headache or other pain; she is rather deaf, although she has never had aural discharge. She is slow at answering questions. Her tongue is red and dry; diarrhoea is frequent; she had twelve motions last night, all of which were small and fluid. Her urine is dark-coloured; the motions and urine are passed into the bed. There is no renal tenderness. There is considerable dependent oedema the abdomen is distended with fluid. There is oedema of the chest wall, and there are dilated veins on the abdomen and chest. There is no oedema of the face. The conjunctivae are somewhat yellow, but the complexion is pale. Her gums bleed slightly. There is no blood in the motions. The abdomen measures 29½ inches at its largest circumference; its surface blistered in two places from application of mustard. The lungs are resonant to percussion except at the bases behind, and laterally there is a curved line of fluid dullness on both sides, its highest point being at the level of the eighth dorsal spine. The respiratory murmur is deficient here, and also deficient over the whole of the right lung. There is no respiratory distress. The cardiac apex is in the fifth space; there is no murmur. The pulse tension is low; a tracing shows hyperdicrotism, with the respiratory curve plainly marked. The diarrhoea, under treatment, had lessened. No specimen of urine was obtained.

Vomited three times on the morning of September 18th. The abdomen was tapped and 6½ ounces of clear, greenish-yellow coloured fluid were withdrawn, containing a moderate amount of albumen, 5 per cent. of urea, and sufficient peptones to give the biuret reaction. No bile was present, but chlorides were abundant. The temperature on admission was 100°, but it sank to subnormal on the evening of the 18th, with a rising pulse and irregular breathing. At 9 P.M. on the 18th the patient was very grey-looking and cold; she had slight external strabismus of