TORSION OF THE GALL BLADDER.

BY

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TORSION of the gall bladder is a very rare condition, and in consequence I report the following case.

A married woman, aged 54, with six children, whilst taking tea on February 17th, was seized with severe pain in the right upper abdomen. She vomited frequently bright green bile, and the pain and vomiting continued until the morning of February 19th, when she was admitted to the London Hospital. She had not previously had similar pain, nor flatulent dyspepsia, jaundice, or any abdominal condition, although, until seven years ago, she was alleged to have suffered from periodic "bilious attacks," consisting of headache, slight sickness, but no pain, lasting for about a day. She was always constipated.

The temperature on admission was 99°, pulse 94, and respirations 24. The abdomen was slightly distended, and did not move well on respiration. Tenderness and rigidity of the right upper abdomen were pronounced, and a rounded lump, suggestive of a distended gall bladder, could be felt. Acute cholecystitis with a gall stone in Hartmann's pouch obstructing the cystic duct was the clinical diagnosis.

Operation.—A right upper rectus incision was made and the rectus muscle retracted outwards. As soon as the peritoneal cavity was opened some serous fluid escaped and a black distended gall bladder presented. It was about 3½ in. long, the shape of a thick sausage, with the concavity directed upwards and forwards. The peritoneum completely covered it and attached its proximal end to the liver by a mesentery, which also contained the cystic duct. A cystico-duodenal fold ran from the under surface of the proximal end (the cystic duct end) to the duodenum. The gall bladder had rotated once completely on the cystic duct from right to left. The gall bladder was extremely mobile, and its wall in the region of Hartmann's pouch so thickened as to suggest to the palpating fingers a stone therein. I removed the gall bladder and explored the biliary passages, but found nothing else abnormal.

The gall bladder contained blood mixed with a little bile, but no stones. The wall was greatly thickened by haemorrhage, especially at the proximal end, where it measured a quarter to a third of an inch. The patient made an uninterrupted recovery.

I am indebted to Sir Hugh Rigby for permission to publish this case.

Relation of the Peritoneum to the Gall Bladder.

The gall bladder lies in a groove on the under surface of the liver between the right and quadrate lobes. Generally the postero-inferior surface and fundus are covered by peritoneum, and the antero-superior surface is attached to the liver by fibrous tissues. Sometimes the gall bladder is crossed by a bridge of liver tissue, and may even be entirely embedded. Rarely it is completely surrounded by peritoneum and attached to the liver by a mesentery. Lett quotes Brewer as finding this condition in 5 out of 100 dissections of the gall bladder and ducts, while Mr. A. J. Walton observed it in 7 of his cases at operation. Very rarely this mesentery does not extend beyond the proximal end ("neck") of the gall bladder, so that nearly the whole of the latter is entirely unconnected with the liver. In such cases the gall bladder is extraordinarily mobile and liable to torsion. It is suggested by Mr. Walton that a mesentery is more common in cases of vaginal ptosis. Not infrequently, especially in cases of ptosis, a peritoneal fold passes from the inferior surface of the gall bladder to the colon or duodenum or both. It is known as the cystico-colic or duodenal fold, and is a continuation of the gastro-hepatic omentum. It was present in three of Brewer's five cases of gall-bladders with mesenteries, and also in the case of torsion here recorded.

Previous Cases of Torsion.

Wendel in 1898 described the case of a woman, aged 23, who had torsion of the gall bladder, in which there were stones, whilst other stones had escaped through a perforation and were lying free in the surrounding abscess cavity. The cystic duct had twisted many times, but there was no gangrene of the gall bladder, presumably on account of the many adhesions present.

In 1909 Lett recorded a case in which the patient, aged 72, was found to have her cystic duct twisted four half-turns, but there were no stones present. She died twelve hours after operation.

In the *Medical Annual* of 1913, in the section on volvulus of the gall bladder, Moynihan and Upcott quote Kubig, who in 1912 published his own case, found *post mortem*, and the records of three others found in the literature—namely, those of Mühsam, Mayer, and Fischer. These four cases occurred in elderly women. The gall bladder had rotated once or twice completely from right to left, was kidney-shaped, full of blood, and its wall was greatly thickened. In one of the four gall stones were present.

Hansen's case in 1921 was that of a woman, aged 79, who had an hour-glass gall bladder; whilst in 1921 Irwin published the case of a woman, aged 34, who on operation was found to have a volvulus, there being one complete twist in the proximal part of the gall bladder itself and not the cystic duct. No stones were present and she recovered.

Jonas operated on a woman, aged 67, in 1923, and found two half-twists of the cystic duct and stones in the gall bladder. She recovered.

Summary.

In all the recorded cases the patients were women and the majority of advanced age. In just over a quarter (3 out of 11) stones were present.

The physical signs and symptoms were practically the same in nearly every case: sudden onset of severe pain in the right upper abdomen, vomiting, slight abdominal distension, rigidity most marked in the right hypochondrium, and a tender lump in the position of the gall bladder. In no instance was a correct diagnosis made, the condition generally being considered acute cholecystitis with a stone obstructing the cystic duct.

Although in nearly all cases the gall bladder was strangulated and gangrene inevitable, apparently (for example, Wendel's case) it may obtain a sufficient blood supply through adhesions to prevent this.

LITERATURE.

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OTITIC INTRACRANIAL INFECTION.

BY

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As a sequel to otorrhoea, with or without mastoid involvement, the presence of pus in the cerebro-spinal fluid is a condition from which recovery is unfortunately not so common as to be uninteresting; and when the surgeon is not only faced with obvious meningitis, but also, in obedience to strong indications of brain abscess, is obliged to explore cerebrum and cerebellum, the patient's prospects are certainly not improved.

Recently at a hospital of 120 beds (the London Temperance) I had simultaneously under my care two cases of this type; and each made a quite unexpected recovery. The following are brief reports.

CASE I.

A girl, aged 17, had had a discharge from the right ear for two years. In August, 1924, a radical mastoid operation (right) was performed. A month later she complained of giddiness and intense frontal headache; right external strabismus was present, with spontaneous nystagmus of the first degree on deviation to the left; there was indefinite thickening over the right jugular vein, and oedema of both optic discs. At first rigors were present; later the temperature, pulse, and respirations fell to subnormal. Pus was found in the lumbar cerebro-spinal fluid.

Operation.—The dura mater was widely exposed, and found to be under slight tension; the wall of the lateral sinus was rough and unhealthy. The sinus was explored with a needle, but only normal blood was extracted. At a second operation, two days later, the dura was very tense and quite devoid of pulsation; first the cerebrum, and then the cerebellum, was explored for pus—without success.

Post-operative History.—Spasticity of the left psoas, adductors, and hamstrings supervened and persisted for a month, then gradually cleared. Hernia cerebri slowly subsided. The intense headache was controlled by heroic doses of morphine and heroin. The patient was discharged well.

CASE II.

A girl, aged 3, in November, 1924, underwent myringotomy for right acute otitis media. In January, 1925, she was admitted to hospital suffering from right mastoiditis, and a cortical mastoid operation was performed. Two days later she was isolated for pertussis. Four days later still the head was retracted, and there were convulsions of the right limbs, with paresis of the right side of the face and complete paralysis of the left arm. Pus was found in the lumbar cerebro-spinal fluid.

Operation.—Chloroform was the only anaesthetic employed, ether being contraindicated on account of cough. The dura mater was widely exposed, and found under slight tension. The wall of the sigmoid sinus was healthy. At a second operation, two days later, the dura was very tense, there was no pulsation whatever. Both

the cerebrum and cerebellum were fruitlessly explored for pus. The child appeared to be moribund, and required only a very little anaesthetic.

After-History.—The hernia cerebri gradually subsided, and the patient made a complete and uninterrupted recovery.

I would emphasize the value of the two-stage operation. It often happens, as in these two cases, that while it is manifestly the surgeon's duty to open the cranium it is not so obvious what further steps should be taken. It may be necessary to drain the meninges, or turn clot out of the lateral sinus, or explore the brain. Therefore it is often wise, in the first instance, merely to expose the dura widely. This drains any local extradural abscess; the relief of tension helps the patient; and, since the dura is more resistant to infection than is bone, no harm has been done. If there is no clear indication to proceed further, the patient is returned to bed. Except in the rare cases in which the condition clears up, apparently as a result of the simple decompression, the second stage is undertaken one or two days later. By now there is usually more exact evidence of the lesion to be dealt with—both clinical evidence and evidence from the appearances of the exposed area. But by now, also, the patient is more ill, and would possibly not stand the prolonged operation of removing bone. This, however, has been obviated by anticipation, and the exploration of brain or sinus only occupies a few minutes.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PROLAPSE OF GUT DISTAL TO A COLOSTOMY.

In performing colostomy, after finding the sigmoid colon, the surgeon gently pulls down the loose bowel until the descending colon is nearly taut, so that any loose folds of sigmoid are not left just above the opening. The interest of the case here recorded lies in the fact that the sigmoid distal to the colostomy made in the recognized fashion prolapsed 9 inches.

W. M., male, aged 75 years, admitted to the Paddington Infirmary on January 26th, 1925, stated that colostomy had been performed twenty years previously for cancer of the bowel. There was a left iliac colostomy through which 9 inches of gut prolapsed. The abdomen was tender and rigid, but replacement of the prolapsed gut caused these signs to disappear. The patient suffered also from capillary bronchitis. Death occurred in fifteen hours.

Necropsy.

In addition to advanced bronchitis in both lungs, chronic interstitial nephritis and generalized arterio-sclerosis were present. The colostomy had been performed at the lower end of the descending colon. The gut for 16 inches distal to the opening was oedematous, congested, and dilated. The remainder of the large gut was contracted and empty. There was no sign of any malignant growth in the abdominal cavity, but there was well marked diverticulitis of the pelvic colon; some of the diverticula were minute, containing nothing but mucus, but one, resembling a normal appendix in size and length, contained a small amount of faecal matter. These observations were confirmed on microscopical examination. The appearance did not suggest that any portion of the gut had been removed at the previous operation.

We wish to express our thanks to Dr. Bendle, medical superintendent of the Paddington Infirmary, for permission to record this case.

It would appear that this case of diverticulitis of the colon had been regarded as an inoperable carcinoma. Retroperistalsis depends on a state of tension. Retroperistaltic waves once started may be augmented by an increase of internal pressure (Cannon). The fact that at the necropsy all the large gut except the 16 inches distal to the colostomy was empty suggests that the tension of this part of the gut caused by the presence of faeces initiated a retroperistaltic wave, which was sufficiently strong to cause prolapse of a portion of mucosa, and that the lumen of the gut was thereby obstructed, causing a further rise in tension which led to a greater degree of prolapse. Such a complication is obviously prevented by the frequent periodic flushing out of the segment of the bowel distal to a colostomy opening.

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TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

I DECIDED to try the treatment of diabetes by raw fresh gland in a lady of 67, who had been on a strict diet for six weeks without any appreciable improvement. The percentage of sugar present before gland treatment was 2.65; after four days' trial sugar had completely disappeared. I then recommended gland ingestion every other day for a week, when the urine showed a return of the glycosuria, but only 0.22 per cent. She returned to her original daily dose, when again, after a few days, the urine was free of sugar. She declares herself wonderfully better, her abnormal thirst and appetite having practically disappeared.

From experience I think it unsafe to be too dogmatic on any line of treatment for diabetes, as, despite recent research, the etiology and pathology of some cases are most puzzling and they refuse to respond to any form of treatment.

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Mrs. K. aged 50, who had been treated for diabetes by dieting since January last, appeared from the history to have suffered from diabetes for at least two years. Under treatment some symptoms subsided, but the specific gravity of the urine was never reduced below 1030; it was usually considerably higher, and the percentage of sugar was only reduced to 2.5. The patient objected to trying insulin. Raw pancreas was started on March 17th (as recommended by Dr. Hollins, *BRITISH MEDICAL JOURNAL*, March 14th, p. 503), and on March 21st the urinary sugar was reduced and the specific gravity of the urine was 1025. By April 24th the urine was free of sugar and the specific gravity 1020. The patient put on one pound in weight, and all symptoms disappeared. Apart from the addition of the pancreas, which was taken five days a week, no change was made in the diet.

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X RAYS IN THE TREATMENT OF WHOOPING-COUGH.

DR. H. I. BOWDITCH, in the *Journal of the American Medical Association* (vol. i, 1924, p. 1422), gave an account of the treatment of 300 cases of whooping-cough by x rays at the Boston Floating Hospital. References to the work of Dr. Bowditch and his colleagues appeared in the *Epitome*, November 29th, 1924 (para. 424), and December 20th, 1924 (para. 491). A previous article on this subject was published by Dr. Bowditch in the *Boston Medical and Surgical Journal* of March 8th, 1923. Acting on the suggestion, but adopting a rather simpler technique, I have used the method in nine consecutive cases of whooping-cough during the past three months, and my experience may be summarized as follows.

1. The cases were all well established examples of uncomplicated whooping-cough, and four were very severe. The ages of the patients ranged from 1 year and 9 months to 55 years, and the duration of the attack from ten days to four months.

2. The dose of x rays varied with the age of the patient from 1/4 to 3/4 pastille dose, using in each case a suitable aluminium filter and a tube of equivalent spark-gap of 8 inches. In each case the dose was directed to the inter-scapular area from behind, this being the nearest point of approach to the root of the lungs, where enlargement of the lymphatic glands occurs in this disease. Two doses were given, with an interval of one week, in all except three cases, in which one dose only was given. The patients received no other treatment.

3. In all the nine cases so treated the cough ceased in less than a fortnight, and in no case did it recur; the cough at night was the first to be stopped.

The rationale of the method is explained by Dr. Bowditch, and I have personally confirmed the existence of enlarged glands at the root of the lungs. I do not believe that any bad sequelae are likely with these small doses, which have been employed in a large number of cases of early tuberculous adenitis; this invariably clears up under similar but