cervical canal. A large number of ligatures were required to secure bleeding points at various parts of the "bed" from which the tumour had been dissected. A sterilized gauze drain was passed through the cervix into the vagina, and the peritoneal flaps were sutured together over the stump and the end of the gauze drain projecting from it. A second gauze drain was also left in the lower angle of the abdominal wound, the rest of which was closed in the usual way.

The patient ultimately made a good recovery, and left the hospital on July 22nd, 1902. There was moderate fever during the first three weeks after the operation, no doubt due to imperfect drainage.

She came up to see me at the hospital some months after, and I examined her. The scar was quite sound, and the sinus at the lower end of it had healed completely. She had resumed her regular work.

Note on the Specimen.—It was examined immediately after the operation was over. It consisted of the body of the uterus and part of the cervix, both sets of uterine appendages, and of a mass of very irregular form attached to the lowest part of the uterus (see Fig. 1). The body of the uterus was uniformly enlarged. Its extreme length was about 8 in., its greatest width about 7 in., and greatest thickness from before backwards about $3\frac{1}{2}$ in. On section a small fibroid was found in the anterior uterine wall. The left ovary was enlarged to about three times the normal size.

The irregular mass which formed the tumour was attached to the back of the cervix, and perhaps partly also to the lowest part of the body of the uterus. Its greatest diameter was about 13 in.; its greatest thickness from before back was about 8 in. From the surface several cysts were seen projecting, varying in size from that of an orange downwards (see Fig. 2). The lowest part of the mass was cone-shaped, and was the part of the tumour pressing down the posterior vaginal wall. The tumour weighed $13\frac{1}{2}$ lb.

Two years ago I read a paper before the Medical Society of London on fibroids of the cervix uteri,¹ in which four cases of this condition on which I had operated were recorded in detail. In two of those cases the tumour was interstitial. As regards the other two, in one the tumour was retroperitoneal, and in the other chiefly retroperitoneal. In the case recorded in the present paper the tumour was entirely retroperitoneal, and considerably larger than the largest met with in the four cases previously referred to, the largest among which only weighed $9\frac{1}{2}$ lb. These large fibroids originating in the cervix form a class

the characters of which differentiate it very distinctly from the class of fibroids growing in the body of the uterus. For instance, they are frequently solitary, and the symptoms to which they give rise are mainly such as depend on the size and position of the tumour. Fibroids of the cervix do not seem to give rise to menorrhagia. In the case recorded in this paper it will have been noticed that the menstrual losses had diminished in quantity for some months before the patient came to the hospital. On the other hand, disturbances as regards micturition are not uncommon, though no symptoms of the kind were met with in the case dealt with in this paper. An

important feature, common to most of these cases, is that the body of the uterus is not deformed. It may often be recognized clinically as perched on the top of the underlying tumour. In the present case the body of the uterus was not deformed, but uniformly hypertrophied, probably on account of the presence of a small interstitial fibroid in the body of the uterus itself.

Whether the body of the uterus has been recognized previous to operation or not, it comes into view directly the abdomen has been opened. The fact that it is not deformed is a valuable indication of the true nature of the underlying tumour—namely, that it is probably a fibroid growing from the cervix.

As regards the technique of the operation for removing large fibroids of the cervix, the first difficulty encountered is the absolute fixation of the tumour. No matter what the size of the abdominal incision may be, the mass cannot be brought out of, or even up to, the wound till the peritoneum over it has been incised and the deep attachments of the tumour separated. The risk of injuring a ureter is certainly a very real one. In the present instance some 3 in. of the left ureter were tightly stretched over the convex left side of the deepest part of the tumour, and might easily have been cut away. The only way to avoid such an accident is, in dealing with the deeply-lying part of the tumour, to cut nothing until the nature of it has been examined as well as possible under the circumstances.

Another important point is the question of drainage. The enucleation of such a tumour necessarily leaves a large oozing surface, on which are many ligatures. I thought it better in this case to drain through the cervical canal, as well as with a separate gauze drain in the lower angle of the wound, passing down to the region in which the peritoneal flaps had been sutured, so as to cover the cervical stump. I am inclined to think that this drain might well have been dispensed with, but I still think that some drain should be provided for the serous oozing coming from the "bed" of the tumour behind and

Fig. 2.—Retroperitoneal cervical fibroid: another aspect of the tumour showing P, where peritoneum was incised to allow of enucleation of the mass, and D, one of the cavities due to cystic degeneration of the fibroid.

beneath the peritoneum. The patient had moderate fever during the first three weeks after the operation, and this I think was probably due to the drainage through the cervical canal not being sufficiently free. Though the ultimate result was satisfactory, I think it would have been better to have provided freer drainage—for instance, by making a good-sized opening through the posterior vaginal wall.

(The tumour was shown at the meeting of the Medical Society at which the paper was read.)

REFERENCE.

¹ *Trans. Med. Soc. Lond.*, vol. xxiv, p. 106.

TWO CASES OF RETROPERITONEAL CYSTS:

ONE CAUSING OBSTRUCTIVE JAUNDICE AND THE OTHER SIMULATING AN OVARIAN CYST.

By CHARLES A. MORTON, F.R.C.S.,

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THE following cases of retroperitoneal cyst appear to me to be worthy of record: CASE I.

Large Cyst connected with the Head of the Pancreas, which caused Obstructive Jaundice by Pressure on the Common Bile Duct.

A. T., aged 34, was sent to me by Dr. Collinson, and admitted to the

Bristol General Hospital on December 13th, 1901, with marked jaundice. He had been jaundiced for six weeks and had had two previous attacks of jaundice, the first in November, 1900, and the second in September, 1901. There was no history of severe pain or vomiting preceding any attack; there had been, however, one attack of severe pain in the back below the angles of the scapulae, and extending into the umbilical region during this last attack of jaundice. He had for twelve months been subject to pain at times in the same part of his back, but not of a very severe character.

There was a very hard swelling in the position shown in the chart. It will be noticed that this swelling was nearer the middle line than a distended gall bladder at its upper part. It was noticed that the swelling hardly descended with inspiration to the extent which a liver or gall bladder swelling usually does

During the six days he was in the hospital before operation he was up and about the ward and had very little pain. The jaundice did not alter at all. There was no pyrexia. The swelling remained as on admission.

December 19th. Operation. When under the anaesthetic the swelling could be felt to extend further to the right. I made an incision over it through the outer border of the right rectus. The liver and gall bladder were found to be normal, and the mass had no connexion with them. It lay under the pylorus and the first part of the duodenum and the transverse colon. The pylorus and duodenum were carried considerably to the right, and the former passed downwards around its outer aspect. The mass was continuous with the pancreas, that is, the body of the pancreas could be traced into it, and it occupied the position of the head of the pancreas. Its upper part was hard and nodular, but the portion beneath the mesocolon was elastic. I tore through the peritoneum, stretched over the cyst between the first part of the duodenum and the transverse colon, and packed off the area of the cyst wall from the general peritoneal cavity with sterilized gauze, withdrew some pale straw-coloured fluid from the cyst with an exploring syringe, and then aspirated off half a pint. This fluid was neutral, highly albuminous, and under the microscope showed numerous red blood corpuscles and a few granular cells, but it did not convert starch into sugar. The cyst was then opened; the inside felt smooth. It quickly filled with clot from intracystic bleeding. I stitched the edges of the opening in the cyst to the skin and closed the rest of the abdominal wall. The exact relation of the cyst to the common bile duct was not seen at the operation, but there can be no doubt the cyst was in just the position to compress it.

On the third day after the operation, during the changing of the rubber drainage tubes without any violence to the interior of the cyst, very free bleeding occurred from it, necessitating plugging of the cyst with gauze. The gauze plug was removed next day, and there was no recurrence of the bleeding. The cyst fluid continued to discharge for a month. The jaundice slowly disappeared. He left the hospital on February 4th, and the drainage opening had then healed. When seen in March he was very well, but he came to see me in September with a recurrence of the jaundice, which had then been present for a month. I could not then feel any recurrence of the cyst. The jaundice diminished for a time, but again increased. I took him into hospital on October 6th, and then it almost disappeared and he returned home. But he had to be readmitted on November 1st with a recurrence of the jaundice, which had been accompanied by considerable abdominal pain and frequent vomiting. Only some thickening could be made out in the position of the old cyst, though the fingers could be readily pushed into the abdomen by invaginating the loose scar tissue of the abdominal wall, which, in spite of his wearing a belt, had become considerably stretched and thinned. There was, therefore, no evidence of refilling of the old cyst, and I thought the jaundice might be due to the common duct being involved in the contracted tissue of the old cyst wall, though this did not explain the pain and vomiting. However, it was clear that further operation must be undertaken even though a cholecyst-enterostomy might be all that could be done. So on November 11th I again opened the abdomen by an incision in the same place as the former one. When under ether, and the abdominal wall was relaxed, there was very evident bulging in the epigastrium. After opening the abdomen and separating the adhesions due to the old operation, I found a fluctuating mass under the stomach, and another beneath the right side of the transverse colon. The latter could, I found, best be reached through the transverse mesocolon, where it presented as a fluctuating swelling. Several ounces of slightly viscid, straw-coloured fluid were evacuated from it here, after packing off the peritoneal cavity with gauze, and a rubber drainage tube with gauze packing around inserted. The evacuation of the contents of this cyst had made very little difference to the prominence of the other cyst. A finger introduced into it detected its extension into the loin and over to the left side of the spine. It had no connexion with the right kidney. In order to gain better access to the epigastric cyst I made another incision in the linea alba, and evacuated the contents of the cyst after packing off the peritoneal cavity. It contained a considerable quantity of very dark brown viscid fluid under considerable tension. The finger introduced into the cyst detected an extension of the cavity far under the left costal margin. This cyst was also drained. Neither cyst was just where the previous cyst had been. I believe both were new cysts. The fluid from both cysts was found to convert starch into sugar. The discharge from the cysts was considerable for a time, but a month after the operation both drainage openings had healed. The jaundice slowly disappeared, with the exception of a very slight conjunctival tint. He left the hospital early in December. I saw him in October of this year and he remains very well.

CASE II.

A Large Mesenteric Cyst Stimulating an Ovarian Cyst.

L. H., aged 23, was sent to me in November, 1901, by Dr. J. Young with a large abdominal tumour of three months' duration. The swelling had been first noticed in the right lower abdomen. Its size and position are shown in the chart. There was one large mass with two large bosses on it, like the secondary cysts of an ovarian cystoma. Both

the central mass and the bosses were elastic, but there was no fluctuant wave in the tumour. It was dull on percussion. Lateral movement was possible, but limited. Nothing of the tumour could be felt per vaginam even when it was pressed down from the abdomen. It did not extend into the right loin. We had no doubt that it was an ovarian cyst, but when under the anaesthetic it was noticed that it could be pushed upwards away from the pelvis to a surprising degree.

I operated on November 16th, and the cyst when exposed looked like an ordinary ovarian cyst, and I withdrew two pints of its contents with the ovariectomy trocar and cannula. This resembled clay-coloured, liquid faeces, but had not an offensive smell. The cyst was then found to have no connexion with the pelvic organs, but to lie within the mesentery, and a portion of the colon was intimately connected with it on the right side. It extended upwards towards the pancreas, and I had to carry my incision in the abdominal wall above the umbilicus to reach it. The wall of the cyst was of considerable thickness, but so friable that it was very difficult to get forceps which were applied to close the opening in the cyst to hold. I began the enucleation by separating off the colon on the right side. There were no adhesions from plastic peritonitis, but the colon was intimately connected with the growth by a common peritoneal covering, and after the division of this I was able to separate the colon and some glands from the cyst. On the left side I had to dissect off the mesentery with the mesenteric vessels, and some of the veins were of considerable size. I now had the superficial portion of the cyst free, but the deeper part lay buried in the root of the mesentery, and I had to drag the cyst downwards in order to get at it. I attempted to remove this part, but it was so closely united to a portion of the bowel (I think the duodenum) that I tore into the latter. The rent, which was small and very oblique, was closed with fine silk sutures, and I gave up the attempt to enucleate the cyst, and contented myself with removing the more superficial two-thirds of the cyst and draining the deeper third. The cyst was unilocular, and the wall white and fibrous, and $\frac{1}{2}$ in. thick in places. A microscopic section did not show any lining resembling the structure of the mucous membrane of the intestine as has been found in a few of these mesenteric cysts, though the contents of the cyst suggested such a possibility.

She suffered from some shock after the operation, but made a good recovery, though the drainage of the cyst was a tedious matter, and she did not leave the hospital until February 7th, 1902, and then there was a slight line of granulation tissue. I have seen her this year—that is, more than a year after the operation—and she has been well since her discharge, and there is no sign of any refilling of the cyst.

The first case is an example of a very rare cause of obstructive jaundice. Whereas malignant growths of the head of the pancreas and chronic enlargement of the head of an inflammatory nature, are common causes, cysts of the pancreas are very rarely so. Pancreatic cysts are not common, and out of 121 cases Körte found jaundice present in only 9.¹ But it seems to me doubtful whether these cysts were pancreatic in origin, although one was intimately connected with the head of the pancreas, and in the other two a ferment which converted starch into sugar was found. Their position was certainly not the usual one for pancreatic cysts, for in the greater number of cases they lie in the middle line, between the stomach and transverse colon, and incline rather to the left than the right side. However, pancreatic cysts have been known to present above the stomach, and also into the layers of the transverse mesocolon, as two of these cysts did, and they are even occasionally found on the right side of the abdomen, as two of these cysts were. A ferment which converted starch into sugar has been absent from the fluid of undoubted pancreatic cysts,² and has been found in abdominal cysts not connected with the pancreas. The presence of such ferment, then, in two of the cysts, and its absence in the other does not absolutely prove the pancreatic origin of the former, or that the latter could not have arisen in connexion with the pancreas. Any cyst arising in a neighbouring structure may become intimately connected with the head of the pancreas. Cysts of the adrenal are very difficult to distinguish from pancreatic cysts, and a case diagnosed as pancreatic at operation, has been proved on necropsy to be adrenal.³

I think, then, all we can say with regard to the origin of these cysts is that from the way in which the first cyst seemed to occupy the position of the head of the pancreas, and from the presence of a starch-reducing ferment in the other two, they were very likely pancreatic in origin.

Before operation the cause of the jaundice and the nature of the swelling was uncertain. The history was not a typical one of gall stones, for there had been no attacks like biliary

colic preceding the jaundice, and with gall-stone obstruction of the common duct we do not usually find an enlarged gall bladder. However, the swelling in this case was very hard, and not in the usual position of a distended gall bladder, nor did it move with respiration as freely as one would expect a gall bladder to do.

The patient was young for malignant disease of the head of the pancreas, pressing on the common duct, and the repeated attacks of jaundice were unlike obstruction of the duct from new growths, and were indeed suggestive rather of gall-stone obstruction. Gall-stone obstruction seemed the more likely cause, but it did not seem a straightforward case of this kind.

It is a very interesting question why the jaundice varied from time to time. It seems to me that the probable explanation must be that for days or weeks the amount of fluid in the cyst, and therefore the tension, varied, and as this varied so the pressure on the bile duct was diminished or increased. It was also very remarkable that before the patient was under the anaesthetic at the time of the second operation, neither cyst should have caused sufficient bulging to lead to its discovery, and that even with the abdominal wall relaxed under the anaesthetic the lower cyst could not be felt until the abdomen was opened. They both lay under the viscera and at considerable depth, and this was no doubt the explanation of the difficulty in their detection. It shows how retroperitoneal tumours of considerable size may escape detection, even when one is looking for them. The case also illustrates the difficulty which may be encountered in attempting to remove such cysts.

In the second case the fact that the cyst was not ovarian might have been suggested by the undue mobility upwards under the anaesthetic. I had not observed this before the anaesthetic was given, though I had noticed the possibility of lateral mobility.⁴ The inability to feel anything of the tumour on a vaginal examination was of no particular value as an indication that the tumour was not ovarian. The largest ovarian cyst I ever operated on I could feel nothing of either per vaginam or per rectum. I do not know how the two large bosses present on the tumour are to be accounted for, for the cyst was unilocular; possibly it bulged more at these parts.

I have recorded⁵ another case of cyst of the mesentery, and in that case the tumour grew in the mesentery in a hernial sac and caused the irreducibility of the hernia. It was a small cyst with dense white wall of fibrous tissue, and on laying it open some soft partitions of what looked like fibrin were seen stretching across it. The fluid from it was slightly blood-stained and a little viscid, and on standing spontaneously coagulated into a jelly. Microscopic examination of the wall showed only fibrous tissue.

Other cases in which mesenteric cysts have been diagnosed as ovarian tumours are on record.⁶ An exhaustive account of mesenteric cysts, with references to many recorded cases, will be found in the papers of Moynihan and Dowd in the *Annals of Surgery*.⁷

NOTES AND REFERENCES.

¹ Quoted by Mayo Robson and Moynihan in *Diseases of the Pancreas*, 1903. ² Loc. cit. ³ Loc. cit. ⁴ The lateral mobility has been considered a diagnostic feature of mesenteric cysts; also in some cases a band of resonance across the cyst has been observed. ⁵ *Lancet*, 1896, ii, p. 1678. ⁶ Carter. *BRITISH MEDICAL JOURNAL*, 1883, i, p. 7; and Knowsley Thornton, *ibid.*, 1882, ii, p. 1242. ⁷ Vol. xxi, p. 1, and vol. xxxii, p. 515.

"RETROPERITONEAL MANIPULATION":

A METHOD OF SEPARATING DEEP-SEATED, PLASTIC, PERICAECAL OR OTHER PERITONEAL ADHESIONS.

By G. GORE-GILLON, M.D., F.R.C.S.E.,
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Now and again the surgeon meets with cases of appendicitis in which the adhesions in the neighbourhood of the appendix are so extensive, solid, and deep seated that there seems to be no way out of the *impasse*. In the following case all the parts in the right iliac and pelvic region seemed to be massed together in one piece:

History.—G. E., male, aged 27, single, took ill with appendicitis for the first time in February, 1902, in a distant part of New Zealand. He had another attack in August and again in October of the same year. That month he was operated on by a medical man who had three others with him. The operator, after long and tedious work in tying omental adhesions, was unable to find any trace of appendix, and so the abdomen was closed up again. He suspected that the appendix was curled up behind the caecum somewhere, but was unable to get at the caecum owing to dense adhesions in the right pelvic and iliac regions. The

patient subsequently went to Melbourne and Sydney, and was in a private hospital in Melbourne, January, 1903, with an acute attack. On returning to New Zealand in February, 1903, he had another attack, and again in March and April. He had been taking hypodermic injections of morphine for the last seven months to relieve the almost constant pain.

State on Examination.—When he arrived in Auckland on April 23rd, 1903, he looked very ill, and his weight was only 7 st. 8 lb. He had some trouble in emptying his bladder, and there was deep-seated tenderness in the right iliac region with some ill-defined thickening there. His temperature was normal. The blood count was normal.

Operation.—On April 26th I opened his abdomen, four other surgeons being present, and, having decided to get at the hidden appendix by the back way, I made an incision 3 cm. internal to the anterior superior spine of the ileum (and to the outside of the former incision), and extended it for 9 cm. above that point and 6 cm. below it (somewhat similar to Crampton's incision for ligaturing the common iliac artery). The condition found was just what I expected from the account given by the former operator—no sign of appendix, but just a close mass of adhesions, like a blank wall, lining the whole of that part of the abdominal cavity. The ileum disappeared into this mass low down, and below it again; the end of the caecum was attached by broad sessile adhesions to the right side of the bladder, which was pulled up somewhat. After a long and patient endeavour to separate the parts from the front I put into practice my plan of "retroperitoneal manipulation," and had it not been for this method of attack I should have had to abandon the attempt as the former operators had done. I first divided the posterior peritoneum over the iliac fascia for about 6 cm. just below the anterior superior spine, in the line of the skin incision, and then inserted my right little finger downwards (while the peritoneum with the intestines was held well forwards) till I felt it cross the external iliac artery, and then with my left little finger in the abdominal cavity in front, and as low down as the other finger, I worked one against another, and soon felt a lump which was the appendix. By gentle manipulation I could feel the adhesions giving way behind like broken cheese, and within ten minutes the front part of the adhesions to the bladder gave way, and up came caecum and appendix out of the wound. The appendix was removed, and after touching the mucous membrane with pure carbolic acid it was sutured and a patch of peritoneum fixed over it. The appendix was inflamed, and about the size of a small orange. The posterior peritoneal wound was united by chromicized catgut sutures soaked for four days in alcohol, and the same kind of sutures were used for the layers of the wound. Owing to the under surface of the caecum (which had been attached to the bladder) being denuded of peritoneum, the caecum was fixed higher up so as not to contract deep adhesions again, and a drainage tube was left in the lower end of the wound, reaching down to that part. The tube was removed in twenty-four hours.

The patient recovered with no bad symptoms and a normal temperature, and was discharged on June 13th, 1903. At the present date, July 26th, 1903, he is 2 st. heavier, has no pain at all, and is back at work managing a sheep station.

When long adhesions form in the abdomen, they are apt to be tense and fibrous if they are so placed as to be subject to constant movement, and they can be tied off as they have pedicles; but a sessile adhesion, although on its inner abdominal aspect it may be pretty firm, yet will be found to be quite friable if attacked from behind. Bleeding from sessile adhesions, especially when approached from behind, is rarely noticeable, or, if present, can be stopped by sponge pressure, as was done in this case. The procedure described above would, of course, not apply when suppuration is present.

SUBPERITONEAL LIPOMATA.

By JOHN CAMPBELL, M.A., M.D., F.R.C.S.ENG.,
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Tumours of fatty appearance which have their seat in the subperitoneal tissue are comparatively rare, but are nevertheless interesting and important from the clinical as well as from the pathological point of view. They mimic tumours of every kind known to abdominal surgeons, and hence are liable to cause errors in diagnosis in the practice of even the most careful observers. When removed they are deceptive in appearance, so that they may belie the prognosis and cause great disappointment to both surgeon and patient. This latter tendency makes them specially interesting to the pathologist, for it has of late been observed that certain tumours in this situation, which in appearance are simple lipomata, prove to be really sarcomatous in character, and after removal, recur with a fatal result.

It has been my luck to meet with two cases of subperitoneal lipoma in my operative practice, and I take this opportunity of placing them on record:

CASE 1.—E. L., aged 55, single, was sent to me by Dr. J. Campbell Hall, of Monaghan, on May 18th, 1900. She complained of increase in the size of the abdomen for four years, and of emaciation for two years. She had a slight cough, and, in connexion with this, Dr. Hall called my