quite possible that if the secondary giving way of the gastro-colic omentum had not occurred, a pseudo-pancreatic cyst would have been produced had the patient survived without operation.

RETROPERITONEAL SARCOMA OF DOUGLAS'S POUCH.

BY

C. FERRIER WALTERS, and I. WALKER HALL,

F.R.C.S.

M.D.

SURGICAL REGISTRAR, ROYAL INFIRMARY, BRISTOL.

PATHOLOGIST TO THE ROYAL INFIRMARY, BRISTOL;
PROFESSOR OF PATHOLOGY,
UNIVERSITY COLLEGE,
BRISTOL.

RETROPERITONEAL growths have assumed considerable importance within recent years, and a large number of benign and malignant growths have been recorded. An admirable summary of these is given by Steele.¹

Of growths arising in the retroperitoneal tissue of Douglas's pouch, only 7 cases appear to be reported in the literature at hand. The paucity of this record justifies the mention of the following instance.

A married woman, aged 35, was admitted to the Bristol Royal Infirmary in October, 1906, for the treatment of an abdominal swelling. Prior to 1904 her health had been good. In 1904, Dr. James Swain operated upon her for an attack of cholelithiasis. From March, 1905, she complained of "dragging" pains in the pelvis and thighs, and pain, located at the lower part of the abdomen, during micturition. Wasting had been gradual and continuous.

On admission, micturition was frequent, but painless. Menstruation regular. The "period" which took place two weeks before admission was, however, accompanied by a certain amount of pain.

On examination, the swelling was found to be located in the pelvis. It was about the size of a fetal head, was situated between the uterus and rectum, and was firm, and nodular in consistence. The uterus was displaced upwards and forwards, and the os uteri could only be felt at the level of, and immediately posterior to, the symphysis pubis. The new growth appeared to be connected with the posterior wall of the upper portion of the cervix uteri, and with the anterior wall of the rectum. The body of the uterus, the ovaries, and other uterine appendages were not involved. The superficial veins of the thighs and legs were enlarged; the abdominal veins were unaffected.

The differential diagnosis compelled the consideration of fibroids, uterine and rectal growths, retroperitoneal and intraligamentous tumours, dermoids, and myeloid and periosteal new formations. Dr. Swain sent the case in as a "fibroid," with the alternative diagnosis of malignant pelvic growth.

Operation.—The usual median subumbilical incision exposed a vascular, soft growth, covered by a thin, shiny capsule, which filled the posterior half of the true pelvis, being apparently attached to the cervix uteri anteriorly, and to the rectum posteriorly. When the peritoneum was cut through, a friable haemorrhagic mass was revealed. The attempt to remove this tissue occasioned such free haemorrhage that it was a matter of necessity to treat the haemorrhage only, and desist from further removal of the growth. Death occurred forty-eight hours later.

At the autopsy it was found that the organs were generally healthy, and there were no signs of post-operative haemorrhage. The tumour arose in the retroperitoneal tissue on the left side of Douglas's pouch. Here there was a mass, about the size and shape of a five-months placenta, cream-white in colour, fairly firm in consistence, separated from the utero-vaginal and rectal tissues by a thick, well-defined fibrous capsule, from which radiating trabeculae passed into the tumour, and situated chiefly adjacent to the vaginal wall but extending also into subperineal and perirectal tissues. This part of the growth lay with its long axis parallel to that of the uterus, and measured $4\frac{1}{2}$ by 3 in. From this area of origin extension had taken place across the middle line, a small proportion of the mass reaching the right side of the pouch. An extension upwards had also occurred, but in this direction the tumour began to lose its solid characters, and exhibited haemorrhages, degenerations, and cystic collections. Superiorly it had lost the capsular tissue

which was so apparent at its lower margins, and was covered only by the peritoneum itself.

There were no metastases; the pelvic bones were normal. When the uterus was bisected it was seen that the body of the uterus was normal. Its internal surface presented a blood-stained area, which microscopical examination showed to consist of haemorrhage and oedema only. The tumour was adherent to the posterior lip of the cervix uteri, and to the entire length of the posterior fornix of the vagina. It then occupied the whole of the subperineal tissue, and became adherent to the anterior wall of the rectum by perirectal tissue. In these areas a distinct capsule was apparent; this capsule became thinner as it passed upwards, the thin peritoneal covering being alone present at the advancing edge. The bladder was quite unaffected.

Microscopically, the capsule was composed of vascular fibrous tissue. At its inner border there were evidences of a slight invasion of tumour cells. The coats of the rectum were quite normal. The vaginal wall was not infiltrated. The tumour itself was composed of sarcomatous cells. These varied in type, large and small round cells and small spindle cells being present. Mitotic figures were easily demonstrable. The adipose tissue of the part was represented by masses of fat crystals and degenerating fat cells, infiltrated slightly by sarcoma cells. There were no evidences of dermoid or implantation structures, nor of any cells of a glandular type. From the characters of its cells, its blood vessels, and its degenerations, the tumour was considered as a mixed cell sarcoma.

Before discussing the prognosis, treatment, and etiology of these growths, it may be well to shortly recount the cases previously recorded in the literature to which access is possible.

Sarcoma (Verocay²).

Boy, aged 9. The clinical diagnosis was lympho-sarcoma of the pelvis. For eight months a swelling had been noticed in the abdomen; fourteen days before death alteration in hearing and speech and loss of intelligence were observed. *Post mortem*, there was slight oedema of the brain, pus in both tympanic cavities, pulmonary congestion, bronchial catarrh, and distension of the bladder and renal pelvis. Between the bladder and rectum there was a nodular tumour the size of a fetal head, rising slightly out of the true pelvis. A most careful examination of the tumour was made, but no connexion with any pelvic organ could be ascertained. On section it appeared dark red in colour, streaks of connective tissue could be seen running through it, and in places it was yellow, apparently fatty. The mass was completely enclosed in a thick capsule.

Microscopically, the tumour was composed throughout of a vascular connective-tissue stroma, forming irregular meshes, and contained spindle and round sarcoma cells, the former predominating; there were areas of necrosis and degeneration.

Spindle-celled Sarcoma (McLachlan³).

An elderly unmarried woman complained of anorexia, sleeplessness, malaise, and a feeling of fullness in the abdomen, with slight pain; a definite tumour was found, which steadily increased in size, and eventually reached the dimensions of an eight months pregnancy. It was dull on percussion, and the superficial veins of the abdomen were enlarged, especially on the left side. The patient died suddenly in an attack of dyspnoea. *Post mortem* the examination was limited to the abdomen. A tumour, arising from the pelvis, was found to be adherent to the whole anterior surface of the sacrum and to the uterus and tubes, the ovaries being free. Microscopically, it was a spindle-celled sarcoma, with many giant cells and large chondrifying areas.

Cystoma of Congenital Origin (Krönig⁴).

This was a retroperitoneal growth, arising between the uterus and rectum, and reaching to the umbilicus; it was diagnosed as an intraligamentous cyst. Laparotomy showed that it was not attached to the uterine appendages, but that it was intimately connected with the pelvic floor and the posterior wall of the uterus. During removal it had to be separated from dense adhesions. The broad ligaments were not involved, but the peritoneum of the posterior pelvic wall and the right side of the sigmoid was pushed upwards by the growth.

After microscopical examination it was considered to be a retroperitoneal pelvic multilocular cystoma, quite unconnected with the uterus, ovaries, or tubes, the cysts being lined with a single layer of cylindrical epithelium, with isolated muscle fibres and glands occurring in the wall, such as might arise from remains of the Wolffian body.

Cystoma (Papilliferous) (Winternitz⁵).

Winternitz removed a retroperitoneal pelvic growth, which proved to be a papillary cystoma, presenting the appearance of an ovarian cyst, although no ova or follicles could be found in its walls. He considered it as originating from some aberrant cells or ova, as there was no reason to infer the presence of a third ovary.

Sarcoma (Winternitz⁵).

Winternitz also mentions a retroperitoneal pelvic tumour which he removed, which was sarcomatous in nature. It recurred shortly after.

Of these cases, one could be definitely assigned to a bony origin, and another was considered as arising from aberrant glandular cells. The remainder, including the present case, were sarcomatous in character. They all contained a considerable amount of fibrous tissue, and were more or less encapsulated. None of them, so far as can be ascertained, were metastatic at the time of operation or death, although metastases occur in about 33 per cent. of retroperitoneal tumours as a whole. The case we now report differs from those previously recorded in its tendency to haemorrhages and in its location in a region which did not easily permit pressure on and subsequent distension of the urinary tract.

PROGNOSIS AND TREATMENT.

Judging from retroperitoneal sarcomata as a whole, the prognosis is unfavourable; but Williams, in the *American Journal of Medical Science* for 1903, collecting the results of operation on these tumours, mentions that Burgoin of Paris had 14 recoveries in 29 cases of extirpation of solid retroperitoneal tumours, 4 of which were sarcoma, 2 of these being among the recoveries; that McCann successfully removed a retroperitoneal sarcoma with several inches of gut; and that Heurteaux of Wartes successfully operated on a man of 60. Other so-called successful cases are reported, but the period of immunity from recurrence is not mentioned. Death usually occurs from exhaustion unless the tumour is surgically treated. In 3 cases intraperitoneal haemorrhage was the cause of death. The presence of a capsule in these growths suggests that, were it possible to accurately and early diagnose the existence of a tumour mass in the retrovaginal tissues, its removal via the perineum offers considerable chances of success. An attempt at extirpation is therefore certainly justifiable.

ETIOLOGY.

Retroperitoneal sarcoma may arise from lymph glands—perhaps their most common origin—and from the periosteum of the vertebral and pelvic bones. A certain proportion originate from normal or inflammatory connective tissue and from the sheaths of vessels and nerves. There are also a number of cases of retroperitoneal growths recorded in which the structure of the tumours suggested an origin from Wolffian bodies or ducts, or from the Müllerian ducts. The latter group of cases may be ruled out of court in the present instance, on account of the structure of the growth.

In view of the tendency of many recent writers to trace the origin of sarcomata to some traumatic influences, it may be remarked that the location of the tumour in this case is consistent with the hypothesis of trauma, since the region here involved must be more or less injured in all primiparae. It is impossible, however, to cite this case in support of the phrase "ohne trauma, ohne sarcoma," for this location is one of the rarest seats of sarcoma, and yet one which is perhaps, of all tissues, the most exposed to injury.

It is a great pleasure to express our thanks to Dr James Swain for his courtesy in permitting the publication of this case.

REFERENCES.

¹ Steele, *Amer. Journ. Med. Sci.*, June, 1904. ² Verocay, *Zeitschr. f. Heilkunde*, 1906. ³ McLachlan, *Lancet*, November 7th, 1903. ⁴ Krönig, *Centrabl. f. Gynäkologie*, 1904. ⁵ Winternitz, *Centrabl. f. Gynäkologie*, 1904.

ACUTE PELVIC ABSCESS FOLLOWED BY
ACUTE OBSTRUCTION.

By ERNEST LEACH, M.B., B.Ch. OXON.,
WITHERIDGE, NORTH DEVON.

THE interest of the following case appears to lie chiefly in the patient's condition before operation with regard to the diagnosis as to the cause of the original trouble. The pelvic abscess suggested appendix or ovary as its origin.

On August 14th, 1906, I was summoned to see Mrs. G., aged 53, the wife of the rector of a neighbouring village. She had complained of constipation for the last four months with attacks of pain of a darting character situated in the left flank, usually noticed in the early hours of the morning when in bed. Previously she had always enjoyed good health, except for one or two attacks of bronchitis. The bowels had always acted regularly up to the last few months. For the last two years she had noticed the pain after standing on damp grass; during the last year this had been more marked. The menopause had occurred three years previously. There was no history of any loss of flesh.

The patient was stout and healthy-looking; the tongue was clean, the heart and lungs normal. The abdomen moved well with respiration; there was no tenderness on palpation nor was any abnormal swelling felt. On rectal examination nothing was detected. The pulse and temperature were normal; the urine was normal. There was no history of any mucus with the motions. A mixture containing bismuth salicylate was given.

On August 18th she was feeling better and the pain was relieved.

On my arrival, in answer to an urgent telegram, on August 21st, I found that during the previous night she had been seized with violent abdominal pain accompanied by frequent vomiting. The pain, which was situated all over the lower half of the abdomen, was so severe that she could not lie still in bed. The face was flushed, the temperature was 102.6°, and the pulse 104. The abdomen was excessively tender, more especially over the left lower half, and moved badly with respiration; micturition was painful. On vaginal examination the mucous membrane was very hot and tender; the uterus was not fixed. By the rectum nothing was felt. She was given a saline fever mixture by the mouth, and two doses, containing 20 minims of liq. morphinae to allay the pain, also hot vaginal douches and hot fomentations over a square of lint spread with glycerine of belladonna.

During the following week the pain gradually diminished. The temperature ranging between 100.8° and 102.6°. The abdominal tenderness was less marked, but always more noticeable on the left side. A definite band of thickening could be felt lying just above and parallel to Poupart's ligament on that side. The uterus became fixed, and posteriorly a well-marked swelling could be felt occupying Douglas's pouch. On August 29th during defaecation about a pint of very offensive pus was passed from the rectum, and on five occasions during the following twenty-four hours in smaller quantities. After this the temperature came down to normal, and the patient felt very much more comfortable. The band of thickening above Poupart's ligament slowly disappeared, and the mass felt in Douglas's pouch was very much smaller in size.

On September 6th I asked Dr. Harper of Barnstaple to see her, with me in consultation, as the temperature had been steadily rising for the last four days. It was decided that no operative interference was needed, and a mixture containing potassium iodide and liq. hydrarg. perchlor. was prescribed, also salol gr. x in cachets twice a day. Five days later the temperature reached the normal again, there having been no fresh discharge of pus. On September 11th the uterus moved much more freely, and an indefinite band of thickening could be felt high up in Douglas's pouch extending towards the left.

On September 23rd the patient came downstairs and had made arrangements to go away the following week. All this time the bowels were acting naturally, and all seemed to be going well. On September 25th, after breakfast, the patient was sick once or twice, and the bowels were open naturally; a dose of calomel to be followed by salts was ordered and a stomachic mixture prescribed. The following day she felt better, the sickness had ceased. She complained of one or two twinges of pain on the left side, but not severe. The abdomen was not distended, the pulse and temperature were normal. As the bowels had not moved, a simple enema was given with a small result. She passed a good night, and on the following day, as the bowels had not acted, a simple enema followed by an olive oil enema was administered, the result from both being practically nil, otherwise her condition was unchanged.

At 2 a.m. on the morning of September 28th she was seized with violent abdominal pain accompanied by frequent vomiting. When I saw her she was in great pain, the face was flushed and anxious, the abdomen was distended, the temperature was 97°, the pulse was bad and 136 per minute. The vomiting continued and frequent hiccough. The patient was clearly suffering from acute obstruction, probably due to adhesions from the previous attack of peritonitis. I wired at once for Dr. Harper as an urgent operation was needed. He very