Queen's Hospital on September 21st, 1896, under the care of Dr. Foxwell (by whom he was subsequently transferred to my care), having been sent in as a case of typhoid fever. About ten years ago he fell down and hurt his head, and subsequently had a discharge from the right ear, which, with short periods of intermission, had continued to the present time. He was able to work until a month ago; then the discharge became more profuse, and he suffered from pain in the frontal region at night. He remained in bed, but became worse. There had not been any vomiting, but there was a history from the friends of several fits and two rigors. Ten days ago a painful swelling was noticed below the right ear, which increased and became more painful. There was a foul discharge from the right ear. The temperature was 103°, pulse 84; tongue very foul, and covered with thick white fur; knee-jerks absent, no paralysis; double optic neuritis.

On the 24th fluctuations were detected in the swelling in the neck, and he was seen by me on the 25th. An incision was at once made, and some ounces of very foul pus evacuated. For two days after this he was more comfortable, but his temperature kept high, and on the 27th he had a rigor, his temperature rising to 105.2°. Although there was no recurrence of the rigors he kept in an unsatisfactory condition, temperature varying from 98° to 105°, pulse from 70 to 100.

On October 2nd the abscess cavity was explored with a view of ligaturing and removing, if necessary, the right internal jugular vein, but no trace of it could be found, and I concluded that it had been destroyed by the suppuration. His subsequent condition became more unsatisfactory, and it was deemed advisable to explore further. He was therefore trephined on October 14th, over the right temporo-sphenoidal lobe, and both this and the cerebellum carefully explored with a needle. No abscess cavity was found. A crown of bone was then removed to open both the mastoid antrum and lateral sinus; the former contained a small quantity of caseous pus, the latter a blood clot. The opening was packed with iodoform gauze. There was little change in the patient's condition after the operation; if anything he was more irritable and restless, and he refused food. There was no further vomiting. He gradually sank, and died on the night of the 15th.

Post-mortem no trace of the right internal jugular vein could be found. The lateral sinus was thrombosed with blood clot, which had not become organised. In the white matter of the brain there were eight small abscesses found, evidently secondary; none elsewhere.

Looking at these cases, it is evident that the first three practically form a group of uncomplicated abscess of the temporo-sphenoidal lobe, and that a fairly accurate diagnosis was possible.

The symptoms in favour of the diagnosis were:

1. A long history in each case of the chronic purulent ear trouble—twenty-five years, fourteen years, and nine years respectively.
2. No mastoid tenderness (except in Case III) and no tenderness on percussion over the sigmoid sinus.
3. No thrombosis of the internal jugular vein.
4. No high or greatly-varying temperatures, and pulse not rapid.
5. Absence of pyæmic symptoms other than the two rigors in Case III.
6. Cerebration little affected in the early stages, but becoming slow later.
7. Marked emaciation.
8. A chronic course terminating in coma.

In favour of the abscess being temporo-sphenoidal rather than cerebellar there were the facts that there was no occipital headache, no marked vomiting nor disturbance of equilibrium, no sensory aphasia, and no implication of the sixth nerve.

Apart from the non-implication of this latter nerve, the neuritis present in the several cases did not much assist the diagnosis, but it is noteworthy that in three of the cases the fifth nerve was early involved, and that the aid of a dental surgeon was sought to eliminate a possible dental cause of the pain.

In Case IV the diagnosis was septic basal meningitis, and this was probably correct, though from the sudden onset it is just possible that a latent abscess may have burst into the lateral ventricle. There was no sudden change in the symptoms during the subsequent progress of the case to indicate that this had taken place.

Case V was primarily a septic thrombosis rapidly extending down the jugular vein, and destroying it by suppuration. The brain abscesses were secondary and pyæmic, and could not have been discovered by operation.

With regard to the time at which trephining is generally performed, commencing coma still seems to be the signal for surgical action, and that it is not a too-late one is shown by the complete and rapid recovery of these and other similar cases.

The question is, Can we anticipate this time with a reasonable hope of success? The experience of the first three cases leads me to hope that an exploratory operation might with advantage be undertaken without waiting for coma in all

cases presenting a series of symptoms similar to those here recorded.

If there is much doubt as to the location of the abscess—temporo-sphenoidal or cerebellar, or possible implication of the sigmoid sinus—the method suggested by Mr. Percy Dean should be followed, and a crown of bone removed, $1\frac{1}{2}$ inch behind and $\frac{1}{2}$ inch above the centre of the external meatus, through which all these regions can be explored. I need hardly say that if there is any mastoid tenderness the antrum should always be opened first, and the surrounding parts carefully examined for any evidence of extension from this cavity.

It is interesting to note that two of the cases had been under careful treatment for the aural condition for years, and that the possibility of intracranial complications had been discussed, as also the advisability of a mastoid operation as a preventive measure, which unfortunately had not been accepted by the patients.

The cases very forcibly show the importance, or rather the necessity, for a mastoid operation in all cases of suppurative middle-ear disease which do not yield to careful treatment by ordinary methods.

CLINICAL LECTURE

ON

CASES OF PERITYPHLITIC ABSCESS OF CÆCAL ORIGIN.

Delivered at the Manchester Royal Infirmary.

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[ABSTRACT]

It has now become a well-recognised fact that most cases of abscess in the neighbourhood of the cæcum or vermiform appendix are dependent upon morbid changes, not in the cæcum as was formerly believed, but in the appendix itself; hence the old names "perityphlitis" and "perityphlitic abscess" are becoming very generally replaced by the terms "appendicitis" and "appendicular abscess." We do, however, occasionally meet with instances of suppuration in this situation, where the primary lesion is in the cæcum, the appendix being perfectly healthy, as was illustrated in the following case, where a perityphlitic abscess was due to perforation of the cæcum by a foreign body:

CASE I. *Perityphlitic Abscess due to Perforation of the Cæcum by a Pin: Fæcal Fistula: Plastic Operation: Recovery.*—A man, aged 26 years, was admitted on September 23rd, 1897, into the Manchester Royal Infirmary, presenting all the symptoms of acute appendicitis. Four days previously he was suddenly seized with severe pain in the right iliac fossa, followed by vomiting. On admission, a distinct fullness was perceptible above the outer part of Poupart's ligament; it was tender upon pressure, and slightly dull on percussion; there was rigidity of the abdominal muscles on the same side, and the abdomen generally was somewhat tympanitic. Temperature 99.4°, pulse 82. For some days there was little change in the patient's condition; there was no sickness, and the bowels acted with an enema, the motions afterwards becoming loose and diarrhoea-like. At the end of a week the attack appeared to be subsiding, for the local symptoms were all less marked; the temperature had remained normal, the pulse never rising above 96.

On the ninth day the patient vomited for the first time since admission. As the sickness continued the following day, and at the end of 48 hours became distinctly fæcal, it was resolved to explore the neighbourhood of the appendix, though no evidence of suppuration could be detected. There was no increase in the swelling, or other local signs pointing to the presence of pus; the temperature remained normal, but the pulse was somewhat accelerated.

On the eleventh day an exploratory incision was made over the region of the appendix. On opening the peritoneal cavity there was an escape of less than 1 ounce of thick pus with a very offensive odour. A fæcal concretion came away with the discharge, ovoid in shape, and three-quarters of an inch in length. Embedded in the centre of the concretion was a pin, its head and point protruding slightly at either end. The abscess cavity, which on exploration with the finger was found to be shut off from the general peritoneal cavity by adhesions, was washed out with boric lotion, and a drainage tube was inserted.

As regards the after-course, though the patient's condition for some days was very unsatisfactory he made a good recovery, and left the hospital for the convalescent home at Cheadle on November 6th, a fæcal fistula remaining at the seat of operation. He was readmitted at the end of December, as there was a very copious discharge of fæcal matter, and also a protrusion of mucous membrane from the fistula, which showed no tendency to close.

On December 30th the wound was enlarged, and it was then found that the communication was with the cæcum, which was closely adherent to the abdominal wall, the opening, which was about the size of a shilling, being situated on the anterior part of the bowel, about 3 inches from the

origin of the appendix. The latter was perfectly healthy; there was no thickening of its wall, and it was quite free from any adhesions. The protruding mucous membrane having been reduced, the opening in the cæcum was closed by a single row of silk (Lembert) sutures, its margins having been liberated and refreshed. The opening in the abdominal wall was then closed, except at its centre, in which a small plug of iodoform gauze was left. There was no further escape of faecal matter from the wound, which was healed at the end of three weeks, when the patient left the hospital and returned home.

The case is a good illustration of a perityphlitic abscess due to perforation of the cæcum, a condition the existence of which has been denied by some writers. Others admit the possibility of its occurrence, the frequency with which the suppuration is of caecal origin being variously given as 0.5, 1, 4, 9 per cent. of the cases of abscess met with in this situation.

In one of the most recent works¹ on this subject it is interesting to note the following statement: "In fact, it will be generally allowed that a perforating ulceration of the cæcum, though it does certainly occur, is of so rare occurrence that it may be disregarded."

Treves² says: "A perforation may be found in the cæcum. In a few rare instances this may be primary and due to mischief starting in the wall of the cæcum, the appendix itself being sound. In the great majority of examples, however, the perforation is secondary and is due to the abscess—which has originated in the appendix—making its way into the cæcum. The perforation under such circumstances takes place from without." That this result is not uncommon is shown by Bull, for in an analysis of 57 cases of appendicular abscess, where the pus was not evacuated by the surgeon, he found that in 15 instances (26 per cent.) it burst into the cæcum.

In the following case a condition very similar to that met with in Case I was found at the time of operation, and in the absence of any other assignable cause it is not improbable that the perityphlitic abscess was produced in the same way.

CASE II. Perityphlitic Abscess due to Perforation of the Cæcum: Faecal Fistula: Ileo-colostomy: Recovery.—A male, aged 19 years, was admitted on April 5th, 1892, suffering from a faecal fistula, the orifice of which was situated in the right groin about one inch above the centre of Poupart's ligament. About six months previously an abscess had formed in this situation with the usual symptoms of perityphlitis, and after the evacuation of its contents a fistulous opening remained, through which there had since been a constant discharge of pus and faecal matter. On May 3rd (an attempt to close the fistula by scraping with a Volkmann's spoon having failed) the external opening was enlarged, and the fistula was followed to its communication with the bowel. This was found to be situated on the anterior surface of the cæcum close to its junction with the ileum. The appendix was quite healthy. The margins of the opening, which was about the size of a shilling, were thickened and indurated, and the adjacent bowel was so firmly bound down by adhesions that it was impossible to free the opening sufficiently to allow of its closure by a plastic operation. Ileo-colostomy was therefore performed, a loop of ileum a few inches from its termination being united by means of Senn's bone plates to the transverse colon. The external wound was then closed except at its centre, in which a drainage tube was left. As regards the after-course of the case, there was a free faecal discharge from the wound for the first ten days; it then began to diminish, and at the end of a month it had entirely ceased, the fistulous opening being soundly healed. It has since remained so, and at the present time—nearly six years after the operation—the patient is in the enjoyment of good health and quite free from any intestinal trouble.

A perityphlitic abscess may also be due to perforation of the cæcum by a stercoral ulcer—that is, that form of ulceration which is not uncommonly met with in the large intestine, and especially in the cæcum, from the irritation and pressure of hard masses of impacted faecal matter. Though it is somewhat unusual for stercoral ulceration to run on to perforation, unless the faecal impaction is secondary to obstruction of the bowel lower down—for example, from a stricture—yet this result may occur in cases of simple long-continued constipation, where the accumulation of faeces is apparently due to loss of tone in the walls of the bowel, as was illustrated in the following case:

CASE III. Perityphlitic Abscess due to Stercoral Ulceration and Perforation of the Cæcum: Extravasation of Faeces into Peritoneal Cavity: Death.—A man, aged 67 years, was admitted on December 3rd, 1894, presenting symptoms of incomplete intestinal obstruction. He had enjoyed good health until seven weeks previously, when he began to suffer from obstinate constipation, accompanied by occasional vomiting and colicky abdominal pains.

When admitted there was considerable distension of the abdomen, so that nothing could be felt on palpation. On digital examination the rectum was found to be empty and free from growth or any evidence of stricture. The obstruction was not complete, for there were several slight actions of the bowels after admission as the result of enemata, the motions being small and hard.

On the fourth day after admission the patient was suddenly seized with

a severe rigor, and the temperature, which had hitherto been normal, rose to 103°. He recovered from the rigor, but the same evening he all at once complained of acute pain in the right iliac fossa, became extremely collapsed, and died in the course of two hours.

Necropsy.—On opening the abdomen the peritoneal cavity was found to contain pus and fluid faeces, most abundant in the neighbourhood of the right iliac fossa. There was no evidence of recent peritonitis. The upper part of the rectum, colon, cæcum, and small intestine for some distance were distended with masses of hardened faeces. Behind the cæcum were a number of old adhesions bounding an irregular abscess cavity, which contained pus mixed with faecal matter and communicated with the general peritoneal cavity. On opening the cæcum, a superficial ulcer the size of a penny, involving only the mucous membrane, was found on its posterior wall, and at the centre of the ulcer there was a small perforation about the size of a pea. The appendix and other parts of the intestine, large and small, were healthy and free from any evidence of ulceration or other form of disease.

In this case the perityphlitic abscess appeared to have existed for some time, and its situation at the posterior part of the pelvis behind the cæcum accounted for the absence of any local symptoms pointing to its presence. The rigor a few hours before death followed by the sudden collapse were no doubt due to the contents of the abscess bursting into the peritoneal cavity, and the absence of any signs of general peritonitis was owing to the fact that death took place before there had been time for it to develop.

REFERENCES.

¹ Hawkins, *On Diseases of the Vermiform Appendix*, p. 11. ² *Perityphlitis and its Varieties*, p. 18.

REMOVAL OF ONE FREE CALCIFIED, AND TWO SUBSEROUS, PEDICULATED FIBROMYOMATA DURING PREGNANCY.

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It is a good and generally accepted rule that uterine fibromyomata should not be interfered with during pregnancy unless urgent symptoms demand treatment. Conditions occasionally arise which justify operative measures, and the unusual condition in the case I am about to relate seemed most certainly to call for operative relief.

On November 6th, 1897, Dr. J. J. Tisdall, of this city, asked me to see with him a woman, aged 38, who had been married for two years.

History.—For some twenty months a tumour was known to have existed in the abdomen, and she had not menstruated since a scanty period of short duration at the end of September, whilst she was also greatly troubled with nausea and vomiting, most marked in the mornings. She had become pregnant for the first time a few months after marriage, but a miscarriage at the third month, accompanied by a very profuse haemorrhage, nearly cost the patient her life. With these two exceptions menstruation had always been regular and normal. There was no history of leucorrhœa, nor indeed of pelvic trouble of any kind beyond that mentioned above.

Present State.—Lying in the central part of the abdomen, immediately above the pubes was a regularly rounded tumour of fairly smooth surface, not tender at all, but of hard consistence; in fact, it felt like a stone. Its mobility was very limited, it could be moved slightly from side to side and slightly upwards, but downwards it would not budge a millimetre. The percussion note over it was dull, and auscultation gave negative results. *Per vaginam* the pregnant uterus was felt lying retroverted below and behind the tumour. The latter could easily be felt; it was about the size of a foetal head, and its stony hardness again impressed one. In the angle between uterus and tumour was a small mass about the size of a pigeon's egg. Movement of the uterus did not affect the tumour, nor was the former affected by putting the latter through its limited range of mobility. Dr. Tisdall informed me that when he attended the patient during her first pregnancy and miscarriage the tumour lay behind the uterus. However, it was very evident that now it lay in front of it, partly in the true pelvis and partly in the abdomen; that it was practically absolutely fixed, and that underneath it the two months' pregnant uterus was wedged and prevented from increasing in size and rising into the abdomen—a state of matters which called for interference. Dr. Tisdall agreed with me in thinking that we probably had to deal with a fibroid of the uterus, although both the history and the physical signs lacked the clearness necessary for a definite diagnosis.

Operation.—When the state of matters had been explained to the patient she decided to undergo operation, and accordingly I opened the abdomen on November 29th. The tumour presented at once as a whitish-yellow mass with a hard finely uneven surface, the hardness evidently being due to the deposit of calcareous material immediately beneath the peritoneal covering. Exploration revealed the presence of very numerous bands of adhesions connecting the tumour to the pelvis, chiefly to its brim. These arranged themselves practically into three sets, uniting the tumour (1) to the brim of the left anterior pelvic quadrant, (2) to the left side of the promontory of the sacrum, (3) to the right side of the pelvic brim and to the vermiform appendix. There were also odd adhesions