Presidential Addresses

TO THE
BRANCHES OF THE BRITISH MEDICAL
ASSOCIATION.

STAFFORDSHIRE BRANCH.

ABDOMINAL SURGERY.

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GENTLEMEN,—I think no one will deny that during the past twenty years more progress has been made in abdominal surgery than in any other branch of the surgeon's art. The names of those to whom this is due I will not attempt to give, as I should be unable to remember all, and gaps would be left which you all would be longing to fill.

I well remember the condition of abdominal surgery when I first came to Wolverhampton as Senior House-Surgeon to the General Hospital, a few months short of twenty years ago. To open an abdomen then was considered an operation of the greatest severity, entailing the utmost risk to the patient, and not to be done if by any means it could be avoided.

The number of abdominal operations the year I came was 24; only 9 of them were for acute disease. The number of abdominal operations last year at the hospital was 300, one-third of these for acute diseases. I do not include in these numbers any operation for hernia; they would add another 250.

We know now that the peritoneum is a part of the body most able to resist the action of pathogenic organisms, and that the mere opening and closing of the abdomen is almost one of the safest operations, and can be done with impunity by any surgeon who thoroughly understands and practises the technique of surgical cleanliness.

But (and this is a very important but) fortunately for some patients, and unfortunately for others, and luckily, perhaps, for the abdominal surgeon, these operations rarely end in simply opening and closing, for even with our increased knowledge of abdominal diseases and improved methods of diagnosis, it must be acknowledged that in a large number of cases, more especially acute ones, we are unable to diagnose the condition until the abdomen is opened, and not always then. So that there must be a great risk in any surgeon beginning one of this class of operations, unless he is prepared and feels able to tackle anything that may have to be done.

It is in these cases that the operator may suddenly be faced by a condition that will call upon him to use all his resources to bring the operation to a successful termination, not only as far as the operation itself is concerned, but, what is more important, with due regard to the future welfare of the patient.

The uncertainty of what you are likely to find is, I think, one of the chief fascinations of abdominal surgery. Operations in which you know practically to a certainty what you will find, and can map out beforehand at your leisure what you will have to do, tend to become monotonous. The unexpected is always happening in the class of cases to which I am referring. They often develop into a contest between the operator and the diseased condition. What satisfaction one feels in winning after a hard struggle, and how hard it is sometimes to have to admit even only a partial defeat. This seems to me to make abdominal operations so fascinating. The abdomen also supplies, of course, an enormous field for the exercise of the operator's skill.

These operations require the surgeon to possess many important qualities, the chief of which are, I think: The knowledge of when to operate; rapidity of operating; deftness and delicacy of touch; coolness; quick decision; the knowledge of when to stop and when to continue.

When to Operate.

This can only be learnt by experience, and is a subject which would supply enough material for a very long

address. But in some abdominal cases, generally acute ones, there often seems to be a something besides the classical signs and symptoms, something of an indefinite character, that cannot be put into words, which decides one to operate at once on a case that at first sight does not appear to be seriously ill, or requiring an immediate operation, but turns out to be very much worse than was expected.

Take, for instance, the following case: A man had a history of appendicitis lasting for four days. He had some slight pain in the lower part of the abdomen, equal on both sides, no lump could be felt abdominally or per rectum, and there was no definite rigidity. Temperature and pulse were normal, his tongue was dry and dirty. I operated, and found a large appendix hanging down into the pelvis, hardly any adhesions round it, and gangrenous in its entire length, the sloughing spreading into its mesentery. The man did not appear at all ill, but in another twelve hours that appendix would have ruptured into the general peritoneal cavity. One operates sometimes because one somehow does not like the look of the patient.

Rapidity.

This is of more importance in acute cases. In these the patients, as a rule, are suffering already from considerable shock, and a prolonged abdominal operation of itself is liable to cause a good deal of collapse, especially if there is much handling or exposure of the abdominal contents. The latter is also true of non-acute cases.

Deftness and Delicacy of Touch.

This is of more importance than the last. The peritoneum, though able to resist to an extraordinary extent the attacks of pathogenic organisms, is a very delicate membrane, and is very easily bruised. Manipulation of the abdominal contents is a prolific cause of shock, which will of course be deeper, and appear sooner, the more rough is the handling of them. Owing to this easy bruising, an operation may appear to have been carried to a most successful conclusion, but the after-results are far from satisfactory. The reason for this is that the surgeon had bruised the peritoneum by his manipulations, and so caused extensive adhesions. What surgeon has not seen such adhesions form after an exploratory operation which has entailed considerable amount of manipulation, but has not been followed by any septic trouble, while quite insignificant ones form (or none at all) after such a thing as a perforating gastric ulcer. Within the last few weeks I have seen a case which had had two attacks of perforating gastric ulcer, and on operating again for a recurrence of the symptoms of gastric ulceration, I found only a few small adhesions hardly worthy of the name, while in a case explored for symptoms like biliary colic, no stones being found, but a considerable amount of manipulation done to find the cause of the symptoms, on exploring again for a recurrence of the symptoms, I found the upper part of the abdomen a mass of very tough adhesions. These were caused, I have not the slightest doubt, by the handling of the abdominal contents at the first operation.

The abdominal operator must cultivate to the highest degree his sense of touch, as so many diagnoses have to be made, and many manipulations are required to be carried out without the aid of vision. Extensive adhesions in awkward places have to be separated by the fingers alone, without any help from sight, and it is only by cultivating his sense of touch that the operator can tell that he is not tearing some important viscus, such as bowel. I have often wished most fervently that I had a spare eye at the tip of my finger. Deftness and delicacy of touch is also of course necessary when the suturing of any of the abdominal contents is required.

Coolness.

The abdominal surgeon, to be successful, must be devoid of operating nerves and never flurried. During his operations he may at any time be suddenly confronted by some startling occurrence which needs immediate treatment; this must be carried out with the utmost rapidity to save the patient's life, and with extreme gentleness so as not to injure some important parts. Such an occurrence as severe haemorrhage from the region of the portal vein, or deep in the pelvis, such as one may meet with in cases of extrauterine fetation. To the surgeon with (shall I say)

a temperament these would be occurrences liable to make him lose his head—a fatal complication in abdominal surgery.

Quick Decision.

More necessary in acute cases, when a delay of a few minutes may mean a fatal issue or indecision entail a considerable amount of unnecessary handling of abdominal contents, causing extra shock.

When to Stop and When to Continue.

The school of experience is the only place where this knowledge can be obtained. There is so much fascination about a difficult abdominal operation that it is sometimes very hard to have to stop and acknowledge even a partial defeat and be content with what may seem a very incomplete operation. It is also sometimes difficult to stop at what is only absolutely necessary for the immediate occasion, and refrain from putting on the finishing touches, occasionally finishing in a way we had not bargained for. A brilliant operation, but the patient died almost immediately after. In some abdominal operations a little longer search might discover the origin of the trouble and permit of its removal. (See Case 16.) These remarks, very incomplete, have suggested themselves to me on looking through the notes of abdominal cases under my care during the last three or four years. I have come across a few which I hope will be of interest, some of them illustrating the uncertainty of what one may find and some of the difficulties one is liable to get into. I have classified these under three heads:

CASES WITH ACUTE SYMPTOMS, OPERATED ON AFTER TRIAL OF PEACEFUL MEANS.

Case 1.

Male, aged 32. Two days before admission, at mid-day, patient felt a sudden pain below the ribs on the left side. He left work, went home to bed, and vomited three times. The next day the pain was better, but he vomited several times. The morning of admission into the hospital the bowels acted frequently, but the pain became worse. He complained on admission of general abdominal pain, chiefly below the ribs on the left side. Tongue dry and furred, no dullness, slight distension, no lump to be felt abdominally or per rectum; urine and chest normal. The patient got worse, the abdomen began to get very distended, and the umbilicus to be stretched, so I explored. Nothing definite was found; there were no signs of any inflammatory condition of the intestines or peritoneum, and no definite cause of obstruction. It was noticed that in many places along the coils of small intestine there would suddenly appear narrow constrictions, as if a cord had been tied tightly round. This constriction did not move along the gut as an ordinary peristalsis, but remained at the one spot for a short time and then disappeared. The patient's progress was not very satisfactory for a few days; the abdomen remained somewhat distended, the tongue furred and dry, and the skin of the face had an earthy appearance. This passed off eventually, and the man went out quite recovered.

Case 2.

Male, aged 34. Was transferred from the medical wards. He had had a distended abdomen for four months, with occasional attacks of diarrhoea. No vomiting, no melaena, no pain, tenderness, or increased peristalsis, no tumour to be felt. The abdomen was very enlarged and tympanitic. Everything possible had been tried in the medical wards to reduce the distension, but without any result. During the administration of the anaesthetic it was noticed that the distension disappeared to a large extent, and on opening the abdomen nothing abnormal was found. The distension recurred once or twice after the operation while still in the wards, but on the whole he was improved, the abdomen being nearly the normal size when discharged from the hospital. While attending as an out-patient the distension recurred.

Case 3.

Male, aged 33. During the last two years the patient had had alternating attacks of diarrhoea and constipation. During the last six weeks he has not been able to work, has lost weight, and has no appetite. The man was slightly jaundiced, and looked ill. Abdomen distended and tympanitic all over. He complained of pain all over the abdomen, but chiefly in the lower part. The vomit was described by his doctor as faecal. On opening the abdomen nothing was found to account for his symptoms,

except some scybalous masses in the colon. No more vomiting occurred after the operation, and his bowels opened quite regularly. The patient improved considerably and went out of the hospital apparently quite well.

Case 4.

Female, aged 6 years. Had had a long attack of acute abdominal pain with vomiting. The symptoms had been much worse for the last two days. Bowels opened after an enema, but the vomiting continued. The child looked very ill, face thin and pinched, tongue dry and furred, abdomen retracted, no free fluid, nothing abnormal palpable, some dullness below the umbilicus, general abdominal tenderness. Bladder empty, nothing abnormal felt per rectum. Pulse 158, temperature 101°. The child had the look of a bad peritonitis from such a thing as a perforating appendix. On operating nothing abnormal was found. The child slowly improved after the operation, and in about a month was perfectly well.

Case 5.

Male, aged 19, came under my care with symptoms of intestinal obstruction. The attack had begun with acute pain in the epigastrium, vomiting, and absolute constipation. The abdomen was only slightly distended, no lump could be felt, and there was not much tenderness. As it was impossible to get the bowels to act and the patient seemed to be getting worse, I decided to explore, although I was doubtful of finding anything. I opened the abdomen and found nothing to account for his symptoms. The next day the bowels opened quite naturally and continued to do so. After some days the epigastrium began to swell and the case developed into one of a pancreatic cyst. The acute attack had evidently been caused by the cyst rupturing into the lesser sac of the peritoneum. The full notes of this case were published in the *Lancet* for February 22nd, 1913.

CASES PROVING TO BE QUITE DIFFERENT FROM WHAT WAS EXPECTED.

Case 6.

Female, aged 36. Was admitted into the medical wards as one of appendicitis. A fortnight before admission there had been an attack of acute abdominal pain in the epigastrium, which was thought to be biliary colic. The attack recurred, but the pain was nearer the region of the appendix. I saw the case while in the medical wards, and beyond some very slight tenderness in the right iliac fossa and marked distension of the caecum, nothing abnormal could be found. I suggested that the case was one of constipation, and, as she had mitral disease, advised waiting. Within a few days she had an attack of scarlet fever, and I did not see her again for about four weeks. She then had a definite tumour in the right iliac region, and had further attacks of pain. I suggested waiting, if possible, until she was free from the scarlet fever. Three weeks later I opened the abdomen, expecting to find a diseased appendix. It was quite normal, but a large tumour filled the pelvis, quite unconnected with the appendix. On examination, the tumour was found to be an extrauterine foetation, the fetus being about a three-months' size, and, from the amount of bleeding, did not appear to have been long dead. The correct diagnosis might have been made, but the patient was a single woman, a domestic servant of supposed unimpeachable character, and she persisted in stating that her menstruation had all along been quite regular. This we afterwards found was not a fact.

Case 7.

Female, aged 20. Six weeks before I saw this case she had been operated on at Manchester for an appendix abscess which was still discharging. She complained of very little besides soreness in the region of the appendix wound. The next time she was seen was a fortnight later, when she complained of a good deal of abdominal pain. The sinus had healed, and there was some distension of the lower part of the abdomen, which was rather rigid and tender. I looked upon it as a case of appendix abscess which was not draining properly, and expected to find a collection of pus at the bottom of the old sinus. Much to my surprise I found that the sinus only went in a very little way, and not in the direction of the pelvis. I then opened in the middle line, and found the lower abdomen a mass of tough adhesions. On carefully separating these I came on small collections of clear fluid and one of pus among the intestines. The pelvis was filled by two collections of fetid pus, which, from the way the abscess walls peeled out, and from their position, I

had no doubt were two suppurating broad ligament cysts. Her convalescence was rather prolonged, the old appendix wound refusing to heal up.

This was an apparently very simple case proving to be very complicated and difficult.

Case 8.

Male, aged 73. During the past four months he had had troublesome diarrhoea, no constipation or vomiting, but a considerable amount of abdominal pain and rectal tenderness. Has become much thinner; for three weeks there has been some dysuria; no blood or mucus per rectum. The man was wasted, tongue dry and furred, abdomen distended, no visible peristalsis, some pain in left iliac fossa, where an indefinite lump could be felt; rectum ballooned; no blood or mucus on finger. By the sigmoidoscope ulceration of the sigmoid was seen. Considered to be a case of malignant sigmoid.

An incision was made in the left iliac fossa over the indefinite lump. A piece of enormously distended gut presented, and in attempting to bring it outside to examine the gut gave way, a large hole being torn. I decided to remove this, but I discovered that the whole sigmoid and descending colon was strictured, and the mass was an enormously distended pouch of the sigmoid. The gut below this pouch was ulcerated and the ulceration extended into the beginning of the transverse colon, the gut being very rotten. There was nothing to do but to excise the sigmoid and descending colon and part of the transverse colon. A Paul's tube was fastened into the upper end, which was also partially attached to the upper end of the rectum. The patient stood the operation well, but suddenly collapsed later, and died the day after the operation. This was a case in which one was forced to do more than one wanted, with the expected result in a patient of his age.

Case 9.

Male, aged 38. This case was sent to me as one of acute intestinal obstruction. There was a week's history of acute abdominal pain and severe vomiting. The patient was very collapsed, sweating profusely, exceedingly tender in the epigastrium, which was rather distended. Pulse rapid and temperature raised. I thought that it might be a case of subphrenic abscess. On opening the abdomen, a good deal of free fluid was found, the gall bladder was not distended, and no gall stones could be felt, but the wall of the gall bladder was very thickened and oedematous, quite a quarter of an inch thick. Thinking that it might after all be a case of cholecystitis I drained the gall bladder. The patient got gradually weaker, the epigastric pain continued, and he died about forty-eight hours after the operation. The *post-mortem* examination showed cirrhosis of the liver and very cirrhotic kidneys.

Case 10.

Male, aged 2½ years. There was history of abdominal pain for some time and gradual enlargement. The pain became more acute two days before I saw the case, and was attended by vomiting. Sent to me as intestinal obstruction; when I saw the case it did not appear to be a case of that sort. The abdomen was very distended and tympanitic; some free fluid; nothing abnormal felt; temperature 101.8°.

In a day or two, the distension partially subsiding, some lumps could be felt in different parts of the abdomen, and the case was thought to be one of tuberculous mesenteric glands. The child did not improve, so I decided to explore. On opening the abdomen I found the whole peritoneum, visceral as well as parietal, except the great omentum, very oedematous, while the entire mesentery felt as if it was the seat of solid oedema, being in some places nearly an inch thick. There was no tubercle. Gut generally not thickened. The patient got gradually weaker and the abdomen more distended, and died a month after the operation. *Post mortem* there was still the enormous thickening of the whole mesentery, together with a mass in the walls of one part of the ileum. There were new growths in the capsule of the kidneys, in the portal fissure, and spleen, also on the thoracic surface of the diaphragm. No growths were found in the lungs.

Report.—Sarcoma of small intestine with secondary deposits in mesentery and other places.

INTERESTING CASES IN WHICH THE DIAGNOSIS WAS CORRECT, OR NEARLY SO.

Case 12.

Female, aged 16. Was quite well until two days ago, when she was seized with acute pain in the abdomen, accompanied by vomiting. The vomiting continued all

day, and when I saw her the vomiting was distinctly faecal. Her bowels had opened two days before, and slightly after an enema the next day. No history of previous abdominal trouble could be obtained. She looked very ill. Tongue dry and furred, pulse 108, temperature 99°. The abdomen was slightly distended, moved on respiration, not very tender, dullness in both flanks, and impaired note over pukes. No tumour felt. Per rectum, an ill-defined mass in Douglas's pouch.

I operated at once, found a good deal of free fluid, and the intestine acutely inflamed and covered with tubercles, as also was the parietal peritoneum. The gut appeared to be covered with velvety granulations, which bled so profusely at the slightest touch that much could not be done. There were several adhesions in the pelvis, causing the gut to be kinked in many places. As many of these as possible were broken down, profuse haemorrhage preventing me doing much. The abdomen was closed and a gauze drain inserted. The patient made an uninterrupted recovery.

Case 13.

Male, aged 28. Ten days before was operated on for supposed appendix trouble. A large mass of tubercle was found involving the appendix and caecum. General tuberculous peritonitis. Operation seemed to very much improve the patient.

The present attack began with sudden acute pain in the abdomen, with vomiting and collapse. On opening the abdomen peritonitis was found with the contents of intestine in the cavity. A perforation of the ileum was found and sutured. The patient did not rally. *Post mortem* the perforation found to be at the base of a tuberculous ulcer. A perforating tuberculous ulcer of intestine, causing general peritonitis, is not at all common.

Case 14.

Male, aged 4. For four days before admission he had had abdominal pain, with vomiting, which became gradually worse. Constipation, but not obstruction. The child had general abdominal pain and tenderness, more at the umbilicus; no rigidity or distension. The child looked very ill indeed, very much like a general peritonitis from a perforation. Temperature 97°, pulse 180. Although the child was so very bad, I was not satisfied that there was any abdominal condition that operation could improve, so I waited. The condition remained about the same, with an occasional improvement; but he got gradually worse, and died four days after I saw him. *Post mortem* there was no evidence of peritonitis or enteritis, except a few red patches at the lower end of the ileum. Liver large and fatty, kidneys pale and fatty, spleen normal, pancreas firm and gritty; urine collected from the bladder contained acetone, no sugar.

Case 15.

Female, age 39. She gave a four days' history of an ordinary appendicitis. A mass was found in the right iliac fossa, where there was rigidity and tenderness. I made an incision over the swelling, found the appendix normal, and that the mass was situated at the junction of the caecum and ascending colon. It was very hard, and seemed to be spreading into the mesocolon, and was thought malignant. I excised the caecum, joining the gut by two end-to-end continuous sutures.

On examining the apparent growth, the first thing that appeared was a concretion like those found in the appendix, so I thought that I had been mistaken after all, especially as I could pass a probe from the situation of the concretion into the caecum, and on opening the caecum the mucous membrane appeared to be normal. I was afraid that I had unjustifiably removed the caecum. On closer examination I was much relieved to find that the appendix was normal, and that the concretion lay in a long, narrow canal in connexion with the inside of the caecum. It lay, as a matter of fact, in the mesentery of the caecum, and had nearly made its way into the peritoneal cavity. There was a small ulcer in the caecum to mark where the narrow canal began. The patient made a perfect recovery. This was evidently a case of diverticulum of the caecum.

Case 16.

A male, aged 28, gave a history of two days' illness with vomiting. When I saw him he evidently had general peritonitis—most probably purulent—from an appendix. Immediate operation was done, and on opening the abdomen a quantity of foul pus came out, and the appendix was found to be normal. I was certain that there must be some cause in the abdomen for the condition, and that it was not a case of far advanced pneumococcal peritonitis. The pus was not like one, so I examined the pelvic contents, and there found a gangrenous perforated Meckel's

diverticulum. The patient did very well. The chief point of interest is the fact that the opening from the diverticulum into the bowel was large enough for one's little finger to pass through, so that it must have been simple stasis of the contents that started the inflammation; there was no kinking. The patient made an excellent recovery.

Case 17.

Female, aged 35. She gave a long history of attacks of abdominal colic accompanied by vomiting. When I first saw her it was for a strangulated right femoral hernia. She had had a lump there some time, and I hoped that that had been the cause of her frequent attacks of colic. She was much better for a fortnight after the operation, but she then began to get pain in her abdomen, followed in a few days by a very bad attack of colic and signs of intestinal obstruction. I saw her again, and there was no doubt about the obstruction. It was not complete, as I could feel the intestinal contents being squeezed through the constriction. I advised operation, but as she felt better that day it was refused. She got worse, however, and I opened the abdomen and found a very tight stricture of the small intestine. It was very difficult to get at, as it was fixed so firmly to the abdominal wall that the adhesions had to be cut with scissors. They were like cartilage. I excised the stricture, and did an end-to-end anastomosis. She got quite well, and never had any more attacks of colic. The stricture would only allow the passage of a No. 9 catheter.

Case 18.

Male, aged 75. He had not been well for a week; he had had an irreducible hernia on the right side for some years. About a week ago he had pain in abdomen and vomiting. This forced something more down into his hernia, and made it painful. Bowels opened well until I saw him. Has vomited off and on since the attack began. On the right side he had a large irreducible hernia, not tense, and only tender at the top. I operated at once. The hernia sac was a very large one, contained a quantity of fluid, a large amount of small intestine very adherent to the sac, and at the upper part some thickened and matted omentum adherent to the sac and to intestine. On further examination of this, one part of it was found to be wrapped round an inflamed appendix, a few drops of pus escaping while exposing it. The wound had to be extended, so as to open the general peritoneal cavity in order to get at the caecum for the purpose of removing the appendix. Patient made perfect recovery.

Case 19.

Male, aged 10. Four days before I saw him he was taken with acute pain in the abdomen and vomiting. Two days later a lump was noticed in the right side of the scrotum. This swelling increased and became very painful. Bowels acted the day before I saw him. The boy looked extremely ill. There was a right-sided scrotal swelling, tender, red. There was pain and tenderness just above internal ring; nothing felt there. Was diagnosed as a probable torsion of the cord. An incision was made over the swelling, and on opening what was taken to be the tunica, a quantity of very foul pus was evacuated. As the pus was coming from above, the incision was extended up to expose the general peritoneal cavity. At the mouth of the hernia sac was found a perforated appendix, surrounded by an abscess which had evidently burst into the hernia sac. There was also a necrotic area on the caecum. The boy did not recover from the shock of the operation, and died the next day.

SUGGESTIONS FOR THE TECHNIQUE AND PERFORMANCE BY A NEW METHOD OF WERTHEIM'S ABDOMINAL PANHYSTERECTOMY.*

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Two dangers are conspicuous in the performance of Wertheim's abdominal panhysterectomy for cancer—shock and sepsis—shock because the operation under the most favourable conditions is a severe and prolonged one; sepsis because in addition to circumstances conducive to infection being present, a septic stage is intro-

duced of necessity into the operation itself. It will be understood that I am omitting the normal risk of infection which attends the performance of every operation, and which can be practically eliminated by a careful operative technique.

The following are the special circumstances favourable to infection in Wertheim's operation:

1. Patients suffering from the disease for which the operation is performed are usually below the average standard of health, their resistance power against infection is diminished, and they respond, therefore, readily to it.

2. In addition to the peritoneal cavity, two extensive wounds are exposed to infection during the operation—one in the abdominal wall, the other in the pelvis. The former, moreover, is one whose surfaces have been a good deal pulled upon and contused in the retraction necessary for the performance of the operation, and wound surfaces injured in this manner offer a poor resistance to infection.

3. The pelvic wound is open to the external surface by way of the vaginal canal.

4. Retzius's space is freely opened, and this dead space offers a favourable nidus for the accumulation of wound discharges and their subsequent infection.

Furthermore the patient may be actually infected at the time of operation from a foul ulcerating growth, though in operable cases there is as a rule no evidence of this as judged by the pulse and temperature.

When it is considered that in the presence of the above mentioned favourable conditions for infection we of necessity introduce a septic stage as part of the operation, it is not surprising that infection should readily occur. Most of the conditions favouring infection are inherent in the operation itself and cannot be avoided. An important exception in this connexion, and one which Wertheim has insisted upon, is the method of retraction of the abdominal wound. Gloved fingers alone should be employed in this manoeuvre, as they are the least harmful retractors, and bruise the wound surfaces much less than heavy metal ones. The matters over which we possess chief control in lessening the risk of infection are the diseased and septic uterine cavity and the pelvic wound left after removal of the uterus, and according to the manner in which these are managed will depend mainly the results obtained. In the management of the septic uterine cavity the following is my own practice. To begin with, I do not think that preliminary treatment is efficacious. Various preliminary measures, such as antiseptic vaginal douching, etc., may be adopted according to the fancy of the operator, but disinfection to be efficacious must be done as part of the operation itself and after the patient has been anaesthetized. Formerly, after thoroughly curetting away the soft growth a few days before operation, and applying carbolic acid or iodized phenol to the surface, I used to employ in the interval copious antiseptic vaginal douching followed by a thorough cleansing of the vagina by the house-surgeon, with the patient in the lithotomy position, just before she was brought to the theatre. This was in order to lessen the time the patient was under the anaesthetic. I was never, however, satisfied with the results obtained even under the most careful régime. Frequently a little discharge was seen on dividing the vagina; frequently infection of the abdominal or pelvic wound occurred. I have consequently for some time past abandoned this method in favour of the following, notwithstanding the extra ten minutes or quarter of an hour it adds to the operation, and it has yielded far more satisfactory results. In fact, infection has disappeared, though formerly it was as high as 30 per cent. The patient, anaesthetized for the operation and just previous to it, is placed in the lithotomy position. All the soft growth is removed with scissors and sharp spoon. The raw surface left is very thoroughly cauterized with Paquelin's cautery. The vagina is then scrupulously dried and painted with 2 per cent. iodine in spirit. Finally, the raw surface and the vagina are closely packed with dry sterile gauze, one end of which is left hanging out of the vagina. When the vagina is about to be divided the gauze is withdrawn by an assistant not taking part in the operation. If the above procedure is efficiently carried out, the vagina on division is, as it should be, perfectly dry. Wertheim

* A paper read before the Gynaecological Section of the Royal Society of Medicine, July 3rd, 1913.