There being this uncertainty, I think the best rule for practice is to keep in mind the broad fact that, until suppuration has begun, the patient is in no danger. The mere presence of a lump in the abdomen is no justification for an operation with a mortality of 31 per cent. But when suppuration has begun, indicated by the presence of fever, then we know the patient is at the beginning of a long and exhausting illness which may prove fatal, and we ought not to let this go on. As soon as symptoms of suppuration begin the child should be removed by operation, and in most such cases the placenta will be found thrombosed, and can be peeled off and removed with only trifling bleeding. The results of operation under such conditions ought to be as good as those of abdominal sections generally.

What should the operation be? When we are dealing with a large abdominal tumour of uncertain relations clearly abdominal section is indicated. But there are certain cases in which I think it better performed by the vagina. These are the cases in which the child develops in the broad ligament, lifting up its posterior peritoneal fold and displacing the uterus forward. In such a case the lower pole of the fetus bulges down between the rectum and vagina, and it has been found possible to feel through the vagina the cranial sutures and fontanelles. In such a case I think it will be best to open the fetus-containing sac by an incision through the vagina. The risk of infection of the peritoneum will then be avoided, and the cavity can be well drained from the vagina. The placenta need not be removed. The cavity can be kept clean by frequent irrigation, and the placenta will be broken down and discharged in shreds within about ten or fourteen days. I do not advise vaginal operation unless it is certain that the tissues between the vaginal canal and the fetus are thin, and that one end of the fetal ovoid lies downward; still less if there is the slightest doubt as to the diagnosis.

REFERENCE.

¹ *Journal of Obst. and Gyn. of the British Empire*, September, 1903.

ABDOMINAL OPERATIONS DURING PREGNANCY.

By EDWARD T. THRING, F.R.C.S.,

Surgeon, Prince Alfred Hospital, Sydney, N.S.W.

EVERY medical man, whether engaged in general practice or in doing abdominal surgery, has probably met with instances of serious disease of one or other of the abdominal organs complicating pregnancy. If, however, I may judge from my own experience—first, of some years of general practice, and subsequently of ten years of abdominal surgery—such cases as urgently require operative interference are less common than one might *a priori* have expected. Probably the most frequent pathological condition complicating pregnancy—or, perhaps, more correctly speaking, complicated by pregnancy—is either an ovarian cyst or a fibromyoma of the uterus. Most surgeons who do much abdominal work have been at some time or another called upon to remove such a tumour or tumours which would otherwise obstruct labour. In this country (Australia) one occasionally meets with instances of a hydatid cyst occupying the pelvis, and calling for treatment in the same way. I have seen cases of renal calculus which were discovered during pregnancy, and the question had to be decided as to whether removal should be undertaken immediately or delayed until after the confinement. In one instance I have been called upon to deal with a carcinomatous growth of the gut causing obstructive symptoms. We may roughly classify all the instances above referred to as mechanical conditions, and each case must be judged upon its merits. There is, however, an entirely different class of case, which fortunately is not commonly encountered during pregnancy. I mean cases in which an acute infective process attacks certain organs, such as the gall bladder and bile ducts, the vermiform appendix, and, more rarely still, the Fallopian tube.

Under such conditions, that is, an acute infective cholecystitis, an acute appendicitis, or an acute infective Salpingitis, are we to temporize, and trust that the acute symptoms will subside, and permit the pregnancy to terminate normally—or should we deal at once with the pathological condition, removing its cause by operation, and leave the physiological condition to go on to its natural ending? Comparatively recently I have, in my private practice, had to deal with a case of acute gangrenous appendicitis in a

woman six months pregnant, and also an instance (the only one I have ever seen of the kind) of double pyosalpinx in a woman three months pregnant. A short account of each case, together with an instance of double ovarian dermoid cyst removed during pregnancy, and also presenting unusual features, is given. Not so many years ago, it was generally held that surgical interference with pregnant women was to be avoided under almost all circumstances. Even now one meets instances in which pregnant women who are suffering agonies from neuralgia, induced by carious teeth, are solemnly warned that the operation of extraction or “stopping” will probably induce premature labour, and they are left to go on with prolonged pain and discomfort, which might easily be removed without any untoward result. It is only of late years that the safety and generally good results of major abdominal operations in pregnant women have been demonstrated. I do not mean that we should choose to operate during pregnancy if it can with safety be avoided, but in such instances as the acute infective conditions to which reference has been made, and which in themselves threaten life, there can, I think, be no doubt of the advisability of operative interference. This fact was particularly brought home to me by the case of gangrenous appendicitis recorded below. This patient had been seen by a surgeon and a physician, both of large experience, and for whose opinion I have the greatest respect, but because the second and third attacks of appendicitis occurred after the commencement of pregnancy these gentlemen negated operative interference and advised waiting. This was, I believe, a decided error in judgement; the verdict should have been reversed. In that case the patient would have been saved great risk to life, for, although she did recover perfectly and the pregnancy was in no way interfered with, the risk which both she and her child ran was infinitely greater than it would have been had the operation been done in the “quiet interval”—after either the second or third attack.

With regard to the case of double pyosalpinx, we had no choice. The pregnancy, however, was in no way interfered with, and it is now approaching its termination, apparently normally; the fetal heart sounds can be heard, and the movements felt.

The conclusion, therefore, to which I think we must come, is that all cases of acute infective disease during pregnancy, involving either the appendix vermiformis, the Fallopian tubes, or the gall-bladder and bile ducts, should be treated as though the pregnancy did not exist. By so doing, I believe we shall be acting in the best interests of our patients, and also of their unborn children. I do not propose to refer at length to those cases which I previously spoke of as mechanical complications during pregnancy. It has been abundantly demonstrated that the operations both of ovariectomy and myomectomy can, if necessary, be safely performed on pregnant women and without interfering with the pregnancy.

CASE I.

Mrs. M., aged 30 years; four children at full time; no miscarriages.

The patient was seen in consultation with Dr. McMaster of Penrith, near Sydney, N.S.W., on December 26th, 1901. She was then suffering from an acute attack of appendicitis, and had been ill for five days. She had severe abdominal pain, chiefly in the right iliac region, and marked “guard tension” of abdominal muscles on the right side of the abdomen. The uterus was enlarged to about the size of a six-months pregnancy; the bowels had been relieved that day as the result of an aperient and enema. Vaginal examination confirmed the fact of the six-months pregnancy, and showed the presence of an inflammatory mass high up in the right posterior quarter of the pelvis, continuous with a tender swelling in the right iliac region. Temperature varied between 99° and 103° Fahrenheit. Uterus quiet, no normal contractions.

History.—The patient had had three previous attacks of undoubted appendicitis. The first, two months before the present pregnancy, namely, eight months ago; this was a slight attack; then another more severe attack four months after the first attack, and a third two months after the second, namely, when she was about four months pregnant. During the interval between the second and third attacks the patient had consulted a surgeon and a physician in Sydney, and had been advised, because she was pregnant, that no operation should be undertaken.

On December 29th, 1901, the patient came to Sydney, and was admitted to a private hospital. She stood the journey of 40 miles in the train very well.

Operation.—December 30th, 1901. Under ether anaesthesia the usual oblique incision in the right iliac region was made. The deeper layers of the abdominal wall were oedematous (in this instance because of the altered physical conditions due to the pregnancy, the incision was not made at the outer border of the rectus sheath, but through the oblique muscles, the fibres of which had to be divided, as simple separation did

not give sufficient room). There were adhesions involving the colon, omentum, small intestine, and appendix. The right half of the broad ligament was greatly thickened and oedematous, as well as the right ovary and Fallopian tube, the ovary being almost black in colour. The appendix, when separated and stripped from surrounding adhesions, was found to be swollen and gangrenous. It was removed close to the head of the colon. The right ovary and Fallopian tube were also removed, the separate vessels being picked up and ligatured, and the top of the broad ligament overstitched with catgut. A small gauze drain with gutta-percha tissue round the middle portion was placed in position and the abdominal incision closed in layers, catgut sutures being used. Convalescence was quite uneventful, her temperature never reaching 100° F. The pregnancy went on to full term, and the patient was safely delivered of a living child, the line of incision remaining sound.

July 22nd, 1903. The patient reported herself and was examined. The abdominal scar was perfectly sound, nor was there any sign of hernia or stretching of the cicatrix, or any pain or discomfort, the patient being in perfect health. She was again pregnant, from seven to seven and a-half months.

CASE II.

Mrs. L., sent to me by Dr. Abbott, who attended during her confinement; aged 20 years, married fifteen months.

History.—Confinement at full time on October 10th, 1901. Labour difficult and prolonged. Convalescence delayed. Was in bed for one month after birth of child. Suffered from severe abdominal pain; high temperature; there was, in fact, marked peritonitis, the cause of which was not apparent at the time, as there was no *post-partum* sepsis due to infection of the genital tract, so far as could be ascertained. Patient was first seen by me on December 26th, 1902. She was then complaining of pelvic pain and discomfort. Menses absent; was not nursing the child.

State on Examination.—The chest and abdomen showed nothing abnormal. Pelvic examination showed uterus to be involuted and in good position. There were adhesions about the left Fallopian tube and ovary, which was enlarged and fixed low down in Douglas's pouch. The right ovary and Fallopian tube were high up, fixed by adhesions at the level of the brim of the true pelvis, making a mass the size of a large hen's egg.

Progress.—On March 30th, 1903, patient was again seen. She had been "unwell" in January and on February 7th, but not since. On examination the uterus was found to be enlarged to about the size of a two-months pregnancy. Uterine appendages as before. April 28th, 1903. Uterus still further enlarged. As it was obvious that the fixed mass in Douglas's pouch would interfere with labour, abdominal section was advised with a view to removal of the two tumours, the intention being to disturb the uterus as little as possible, thus leaving the pregnancy to continue.

Operation.—May 28th, 1903. On opening the abdomen anteriorly in the middle line, the uterus was seen to be pregnant about four and a-half months. There were general adhesions between the omentum, uterus and appendages, intestinal coils, abdominal walls, and all about the pelvis. Both ovaries and Fallopian tubes, which were in the positions above described, were separated from adhesions and removed, the tubes being cut through in a line with the uterine cornua. The utero-ovarian arch and vessels in the broad ligament were cut and tied separately with fine catgut, and the top of the broad ligament overstitched with fine catgut, from the uterine cornua to the infundibulo-pelvic fold on each side. On the left side of the anterior abdominal wall, near the internal abdominal ring, was a flattened ovoid mass about 1½ in. in diameter, firmly attached to the parietal peritoneum, and close by were two similar, but smaller, masses; these were excised and removed. In all the adhesions over the uterus, bladder, etc., were dark brown hairs about ½ in. to 1½ in. long, and on the fundus uteri was a felted plaque of hair attached by adhesions. This was peeled off. The abdomen was closed in three layers with catgut, mattress sutures of chromicized gut being used for the anterior layer of rectus sheath. No drainage.

Result.—Patient made an uneventful recovery, and was able to come to my consulting room to report five weeks afterwards. On examining the parts removed both ovaries contained dermoid cysts full of sebaceous material and hair. The right Fallopian tube was completely closed, the left still pervious. The masses excised from the anterior abdominal wall were all three secondary dermoid cysts, each containing sebaceous material and hair.

July 30th, 1903. The pregnancy was still going on, and the patient was perfectly well.

CASE III.

Mrs. R., married November 25th, 1902; last menstrual period December 18th, 1902.

History.—She was first seen as a patient by Dr. Abbott, of Stanmore, Sydney, on January 26th, 1903. For a few days before this she had been feeling faint, feverish, and had had slight nausea and vomiting. On January 26th, 1903, there was slight pain and tenderness about the region of the appendix vermiformis and a feeling of nausea; temperature 99° F. A few days later the symptoms were the same. On examination of the pelvis there was a slight fullness and swelling posteriorly to the left. The uterus was not easy to define bimanually, but was not greatly enlarged.

State on Examination.—On February 4th, 1903, the patient was seen by Dr. Abbott and myself; symptoms and signs were as described above,

and the conclusion arrived at was that a pregnancy existed, possibly extrauterine, on the left side, or that there was a normal uterine pregnancy complicated by a tubo-ovarian mass on the left, in connexion with which there had been an attack of pelvic peritonitis. In spite of the somewhat indefinite signs and symptoms, the patient was obviously ill, and it was decided, more especially as it was impossible to exclude a tubal gestation, to operate.

Operation.—On February 6th, Dr. Abbott assisting, abdominal section was performed, no preliminary curetting being done, because of the possible existence of a uterine pregnancy. On opening the abdominal cavity a pregnant uterus was found of a size equal to between two or three months gestation, together with double pyosalpinx; the pathological condition being more advanced on the left side than on the right. The adhesions were fairly extensive, and on the right side the vermiform appendix was involved in the inflammatory process. The ovaries were so adherent, oedematous, and involved in the general inflammatory process, that they were removed together with the Fallopian tubes and the vermiform appendix. Each Fallopian tube was excised from the corresponding uterine cornu. The vessels of the broad ligament were picked up and tied separately with fine catgut, and the tops of the broad ligament overstitched with the same material. The uterus was disturbed as little as possible, although considerable manipulation was unavoidable in separating the pelvic adhesions. The pelvis was drained per vaginam by means of iodoform gauze, and the abdominal incision closed in layers.

Result.—The patient made an uninterrupted recovery, and at this date (August 7th, 1903) Dr. Abbott tells me that she is still well and the pregnancy undisturbed. On examination of the parts removed each Fallopian tube was found to contain a considerable quantity of pus. The left tube had leaked at the fimbriated end, thus causing the pelvic peritonitis. Unfortunately no bacteriological examination of the pus was made, as by mistake the specimens were removed and destroyed.

ON THE OPERATIVE TREATMENT OF UTERINE MYOMATA.*

By RODERICK MACLAREN, M.D.,

Senior Surgeon, Cumberland Infirmary, Carlisle.

THE relation of operative surgery to surgical disease is for ever changing, and in no condition is this more apparent than in regard to uterine myomata. At no distant date these tumours were rarely interfered with, the treatment of the pedicle was extraperitoneal, and only very large growths, placing life in immediate jeopardy, were touched. As a consequence the mortality of operation was appalling. An additional reason for unwillingness to meddle with them was the fact that their existence, as a rule, is not dangerous to life. Patients drag on a miserable existence, but they live. Occasionally, when the size of the growth is great, sudden death occurs, but this is a rare ending. Much more frequently a state of misery, invalidism, and suffering lasts till the menopause occurs and then an arrest of growth or retrocession may render the remainder of life more endurable. By slow degrees, however, methods of operation of simple kinds have been evolved and the total mortality has been reduced to little over that of ovariectomy. It is to report the cases of such operations that I have performed in the last three years that I bring the subject before you to-day.

Post-mortem records have revealed the fact that uterine myomata exist in 25 per cent. of all females examined after 25 years of age. In the vast majority of cases they are trivial in size and have given no evidence of their existence during life. They vary in size from extremely minute growths to great tumours, filling and distending the whole abdomen. Their shape varies, though they are all more or less globular, and they are often moulded to the shape of the pelvis. Their relation to the tissue of the uterus is subject to three variations. They may project into the cavity; they may be enclosed in the uterine wall; or they may form pedunculated growths on the outer surface. They are consequently distinguished as submucous, interstitial, and sub-peritoneal.

They only become the subjects of surgical attention when from their size or position, or from being the cause of hæmorrhage they are either the sources of local suffering or general feebleness. The local symptoms are due to pressure. The size may be such as to be a serious inconvenience, from the sheer weight of the growth. Apart from absolute size, a growth may press on any of the pelvic contents. The bladder most commonly suffers, and pain on micturition, and either

* Read before the Border Counties Branch of the British Medical Association.