the open fimbriated extremity as distinct from tubal rupture.

In tubal pregnancy we may have escape of the ovum either into the broad ligament (primary extraperitoneal rupture) or into the peritoneal cavity. Neglecting the former at present, we find four varieties of the latter described when the ovum perishes:

1. *Primary intraperitoneal rupture*, in which there is free hæmorrhage into the general peritoneal cavity, the clinical signs being pronounced shock and acute anæmia, generally so severe as to be rapidly fatal unless the bleeding points are secured. In these cases often no pelvic tumour is felt. Case I belongs to this class.

2. *Intraperitoneal Rupture with Limitation of Bleeding by the Formation of a False Sac*.—Hæmorrhage in this case goes on slowly, allowing time for adhesions to form between intestine and omentum, which limit the amount of bleeding, so that a mass is formed which is felt *per vaginam*. Shock and anæmia are not so severe as in No. 1.

3. *Complete tubal abortion*, very similar to No. 1, but with the signs of acute internal hæmorrhage less marked though severe. Shock may and generally does occur.

4. *Incomplete tubal abortion*, where we get oft-recurring abdominal pain with signs of internal hæmorrhage, often severe, and a gradually-increasing hæmatocele.

But none of these groups embraces the condition found in the second of my cases, so that we must add a fifth group in which, while the pathological conditions are entirely different, the symptoms and signs vary little from those of the fourth group:—

5. *Intraperitoneal rupture of tube and plugging of the rupture by partially-detached ovum with limitation of bleeding*, the clinical features in my case being (1) tubal pain; (2) vaginal hæmorrhage; (3) absence of shock; (4) expulsion of uterine decidua (?); (5) recurrent tubal labour pains and slight internal hæmorrhages; (6) increasing size of hæmatocele; (7) localised peritonitis; the hæmorrhage is not, however, shut off from the general peritoneal cavity.

As to the question of causation, it is evident that in Case II there is no apparent cause, the tubal pregnancy occurring in a young healthy newly-married woman, who had given no signs of pelvic mischief. In Case I Dr. Bone pointed out that the prolapse of the uterus might, by elongating the tube, have diminished the lumen, and so hampered the movement of the fertilised ovum.

The next two cases are examples of extraperitoneal rupture:

CASE III. Mrs. S., aged 27, has one child, aged 3. When six weeks pregnant (there being morning sickness, amenorrhœa, and other signs just as in her previous pregnancy) patient lifted a dresser, and immediately felt an unusual and queer sensation in the lower part of the abdomen. Two days later severe pains in the abdomen occurred, and patient had repeated attacks of faintness, the pains being very severe. The doctor was called in, and in spite of treatment the pains continued. One month after the accident there was bleeding from the vagina, and the abdominal pains grew worse. Two weeks later patient felt a lump in the right side, and as the pains increased in severity she was seen by one of my colleagues, who admitted her into hospital. On bimanual examination a firm mass the size of a fetal head was felt to the right of the uterus bulging downwards the right lateral fornix, and rising out of the pelvis above. The patient was kept under observation, and a week later the swelling had increased in size, extending now behind the uterus, and bulging the posterior fornix into the vagina, where fluctuation could be felt. I now saw the patient for the first time, and as it was evident that we had to deal with an intraligamentous rupture of a tubal pregnancy, in which the hæmorrhage was extending, operation was advised. The patient was observed for another week, during which time there was a further and rapid increase in the size of the tumour, which had now crossed the middle line into the left broad ligament, extending up into the left iliac fossa. The upper limit of the mass on the left side was almost on a level with the umbilicus. The patient's general condition was rapidly becoming serious, the temperature had assumed a hectic type with rapid pulse and severe pain, peritonitis being indicated, if not suppuration. It was decided to perform abdominal section, and the patient was placed under my care. On opening the abdomen the following condition was found: The uterus, enlarged and pushed upwards, lay mesially; the right tube was enlarged, its middle portion being greatly distended and riding upon the right broad ligament, between the layers of which was a fluctuating mass; continuous with this and lying immediately outside the peritoneum of the pouch of Douglas, which was lifted up by it, was a large mass of blood; towards the left (as on the right) this hæmatoma extended into the substance of the left broad ligament, the layers of which were widely separated by the blood which passed outwards (under the peritoneum) into the iliac fossa; the left tube and ovary were lying upon and in front of this mass, to the upper surface of which the omentum and intestines were adherent (that is, on the left side). Owing to the central position of the uterus the sac could not be stitched to the margins of the abdominal incision, which was therefore closed. The patient having been placed in the lithotomy position, a posterior colpotomy was performed, the posterior vaginal wall being incised at its

cervical reflexion, and the extraperitoneal hæmatoma opened by a wide incision: a very large quantity of blood and blood clot escaped, but no fetus was found. The opening was kept patent and the sac washed out daily, the patient making an uninterrupted recovery. The pathological condition was evidently produced as follows: A tubal pregnancy of the right side ruptured into the substance of the right broad ligament; at intervals there were recurrent hæmorrhages, the blood pushing its way along the loose connective tissue outside the peritoneum and above the vaginal roof, behind the cervix uteri, lifting up the peritoneum of Douglas's pouch and bulging down the vaginal roof, at the same time pushing the uterus upwards and forwards. As the hæmorrhage increased it extended into the left broad ligament, and came to form the huge hæmatoma, which passed on into the left iliac fossa, and eventually formed a mass reaching up nearly to the level of the umbilicus on the left side. By secondary peritonitis the omentum and intestines became adherent to the upper surface of the mass. This was not a primary rupture of the tube into the pouch of Douglas, with the formation of a false sac or capsule by peritonitic adhesion, a condition which is sometimes met with. The pouch of Douglas was readily seen and the hand passed into it, when I opened the peritoneal cavity from above, and the intestinal adhesions were limited to the left side. The right tube was quite free from adhesion, riding, as it were, on the top of its greatly swollen ligament, but distended and enlarged in its middle portion, where no doubt the pregnancy had been located. Six months later the pelvis felt almost normal except for a slight "thickening" of the right broad ligament. I examined the patient again a few weeks since, and it seemed almost extraordinary that the parts could have returned to a condition so nearly normal.

In contrast with the preceding three cases in which surgical treatment was necessary the next case is one in which medical treatment alone sufficed.

CASE IV.—Mrs. B., aged 39, multipara. This patient was seen in consultation in Bolton. There was the usual history of symptoms pointing to the existence of pregnancy, namely, delayed menstruation and morning sickness. A fortnight before I saw the patient she had experienced a severe pain in the abdomen, and had fainted in the street. After this she suffered from frequent micturition. Four days later she again fainted when on the chamber, and the doctor, on making a vaginal examination, found a swelling to the right of the uterus. Several days later she again had an attack of severe pain, and fainted; the pelvic swelling was found to be larger and the patient's condition became somewhat serious, her pulse being 120. The patient, however, rallied, and I was then called in, and made an examination under chloroform. The patient's general condition had improved, and at this time the pulse was fairly strong, regular, and beating at 90. On examination I found a swelling about the size of a fetal head occupying the position of the right broad ligament, and extending across the middle line behind the uterus, which was much enlarged, its fundus being pushed across to the left: the swelling had a firm doughy feeling. I carefully passed the sound, which went a distance of $\frac{1}{2}$ inches. The diagnosis was rupture of a tubal gestation between the layers of the right broad ligament. As the patient had recovered from the shock I advised that no operation should at that time be performed; that the patient should be kept at absolute rest and watched the vagina meanwhile being douched with antiseptics, so that we might proceed at once to perform colpotomy if hæmorrhage recurred and interference became necessary. Three days later a perfect decidua cast escaped from the uterus, which confirmed our diagnosis. The patient made a steady recovery, the mass of effused blood being completely absorbed in four or five weeks.

These two cases (III and IV) are examples of the extraperitoneal variety of rupture. Case IV illustrates the fact that the patient may recover from this condition without operative interference, a not by any means unusual ending. In such cases the indication is to watch the patient closely; if no further hæmorrhage occurs (as shown by absence of increase in the size of the hæmatoma) and no destructive changes take place, interference may be unnecessary, the hæmatoma gradually becoming absorbed in the course of a few weeks; but if, on the other hand, further hæmorrhages occur, as in Case III, or suppurative or peritonitic processes arise, the sac should be opened. Case III illustrates how satisfactorily this may be done *per vaginam*, this method giving the advantage of free drainage from the most dependent part.

RUPTURED INTERSTITIAL TUBAL PREGNANCY TREATED BY SUTURE OF THE FISSURE.

By PETER TYTLER, M.D. ABERD.,

Honorary Surgeon to the Ancoats Hospital, Manchester.

THOUGH cases of tubal pregnancy are frequently reported at medical societies and in medical journals, yet, so far as I have observed, no case where the tube was ruptured in the interstitial part of the uterus has been fully recorded.

F. D., aged 31, the mother of seven children, was admitted to Ancoats Hospital on May 13th, 1895, in a state of collapse from internal hæmorrhage. Her history previous to illness was that she had not menstruated for six weeks when she was seized on May 3rd with a severe pain at the bottom of the

abdomen, but after a few hours she got up again and went about her work as usual. She noticed that the menses came on after this, but were very dark and very scanty. On May 8th, five days after the first attack, when she was washing clothes, she was again suddenly attacked with great pain in the stomach, and became cold as death. She was carried upstairs to bed, and remained there in a state of great collapse from May 8th to 13th, when, as there was no improvement, she was sent into the hospital.

Her condition on admission was that of great collapse, pallor, coldness of surface, feeble pulse, etc. Physical examination of the abdomen revealed a rounded mass, softish and smooth, low down and to the right of the middle line. Impulse applied to the cervix uteri was communicated to the tumour. There was mucus and blood in the vagina. The cervix uteri was deeply torn on the left side. The thoracic and other organs were normal.

I first saw the case on May 15th, two days after admission, and eight days after the second attack I found the condition in the abdomen as already stated. Percussion over the lower part of the abdomen was clear, and nothing was to be felt in Douglas's space. As she seemed to be rallying we agreed to watch events.

On May 17th I received an urgent message that the patient was vomiting, very much worse, and anxious to have something done. After chloroform had been administered I made a small exploratory incision between the pubes and umbilicus, with a view to verify the diagnosis of ruptured tubal pregnancy, which had been made from the first by Mr. Emery, the house-surgeon. On opening the peritoneum the abdomen was found to be full of black clotted blood. The incision was at once enlarged, and a hand introduced to compress the right broad ligament to prevent fresh bleeding, which was feared might recur on the pressure being relieved by opening the abdomen and removing the clots. However, when the clots were removed there was no sign of recurrence or even of recent bleeding. We found a rent in the fundus of the uterus on the right side, extending from the middle to the origin of the right Fallopian tube. The right side of the fundus was twice the breadth of the left. The length of the rent was nearly 2 inches. This opened into a spherical cavity filled with fibrin, which was removed, finding no trace of cyst wall or ovum.

After carefully clearing the peritoneal cavity, we removed the right tube and ovary. Then after carefully washing out the fundus of the uterus, the rent was closed with four fishing gut sutures, the edges being inverted slightly. After again carefully clearing out and inspecting the peritoneal cavity, a drainage tube was put in, and the abdomen closed in the ordinary way.

The patient made a good recovery, and was discharged on July 2nd about six weeks after operation, with a small sinus at the lower end of the wound in the site of the drainage tube. This sinus remained open for some months, discharging a suture now and again till it healed.

About eight months later the patient had a severe attack of dysentery, and since then has had more or less diarrhoea at every monthly period.

The usual treatment in these cases is to remove the uterus. This I ascertained afterwards from some remarks made by Mr. Bland Sutton some time after I operated on my case. He also mentions that he had heard of a case which had been treated in a manner similar to the method I had adopted, and considered it an advance on the previous method of removing the uterus. So that with ordinary surgical principles it is possible under this Listerian dispensation to be wisely ignorant of the orthodox procedures of a less happy time.

THE PRINCE OF WALES'S FUND.—The Honorary Secretaries of the Prince of Wales's Hospital Fund for London request us to announce that an illustrated programme of the Royal Jubilee procession will be published in aid of the funds, to which the entire profits will be devoted. It will give detailed particulars of the procession, and 64 pages of illustration. The volume, the publication of which has been authorised by the Prince of Wales, will be sold at the price of 1s., and will be on sale four or five days before the date of the procession.

FOUR CASES OF INTRAUTERINE DEATH: SPONTANEOUS EXPULSION OF THE OVUM LONG AFTER ITS DEATH.

By JAMES OLIVER, M.D., F.L.S., F.R.S. EDIN.

CASE I. *Retention of a 4½ Months' Product of Conception for Two and a Half Months after its Death.*—M. R., aged 26, and married eight years, had had four children and no miscarriage. The last child was born in June, 1890, and was suckled until June, 1892. After this confinement the menstrual discharge reappeared in September, 1891, and it recurred regularly thereafter for six months. She menstruated for four days in March, 1892, the discharge ceasing on March 24th. From March 24th until August 15th there was complete amenorrhoea. From August 15th until August 29th there was a slight amount of coloured discharge every day. During the fourteen days that this hæmorrhagic discharge was noted, she complained occasionally of slight pain in the lower abdomen. From August 29th until September 21st, when she came under my observation, there had been no recurrence of the hæmorrhagic discharge. On September 21st, 1892, the following notes of the physical signs were made: "There is nothing to note regarding the abdominal examination. Vaginal examination: The cervix uteri is located towards the left side of the pelvis; it is not soft. The os is directed downwards. In front and to the right of the cervix the vaginal roof is pushed down by a somewhat lobulated swelling of about the size of an ordinary cocoa-nut; this swelling is the body of the uterus." On October 21st, 1892, a blood-coloured discharge was again observed, and simultaneously pain was experienced in the lower abdomen. On the following morning a mass was extruded from the vagina, almost round in shape, with a diameter of about 3 inches. It contained a foetus which measured in length 5 inches, and appeared to be 4½ months old. The placenta was hard and cup-shaped.

REMARKS.—This patient became pregnant whilst suckling. The foetus died probably about August 15th, conception having occurred soon after the menstruation in March.

CASE II. *Retention of a 5½ Months' Fetus for Three Months after its Death. Death of Fetus probably dependent upon an Epileptic Seizure attacking the Mother.*—J. C., aged 22, married twelve months, who had had no child and no miscarriage, came under my observation on March 29th, 1893. She then stated that she had not menstruated since July 20th, 1892. She added that during the three weeks preceding an epileptic seizure which she had on January 5th, 1893, she had observed the movements of the child, but since this attack she had felt no movement. On March 29th the following notes were made: "Colostrum can be obtained from both breasts. The abdomen is occupied by a central and globular swelling which extends from the pubes to within an inch of the umbilicus. The cervix uteri is soft and the os is patulous. The abdominal tumour is the enlarged uterus. On auscultation, neither the placental *souffle* nor the foetal heart could be detected." On April 10th, what appeared to be a 5½ months' foetus was expelled.

REMARKS.—In this case the death of the foetus was probably dependent upon the epileptic seizure. Throughout the existence of the foetus *in utero* no external hæmorrhage occurred until a few hours before the dead ovum was expelled.

CASE III. *Retention of an Embryo of from 4 to 6 Weeks for Four Months after its Death.*—E. S., aged 40, and married thirteen years, had had seven children and no miscarriage. The last child was born in March, 1892; it was not suckled, and the menstrual discharge reappeared five weeks after this confinement. During the succeeding twelve months menstruation recurred regularly. She menstruated as usual in April, 1893, the discharge ceasing on April 14th. From April until the last week in July there was complete amenorrhoea. During the last week in July a hæmorrhagic discharge from the vagina was observed, and although slight in amount this discharge had been noted every day thereafter until the patient came under my care, on September 6th, 1893, when the following notes were made: "Abdominal examination is negative. Vaginal examination: The cervix uteri, which is