limbs were well developed, with perfect hands and feet, bearing equally perfect fingers and toes; the nails were very short. The external organs were of the female type, distinct and without any visible anomaly; meconium escaped from the rectum, and there was no sign of spinal deformity, fissures of the lip and palate, or ectopia of the viscera. This fetus moved its limbs and distinctly cried when extracted, and it showed signs of life for some minutes after delivery. At the end of the fifth month the fetus of intrauterine pregnancy measures about 25 cm. in height. Granting that an ectopic fetus is less well-developed, especially as regards nutrition, I think that the proportions in this specimen indicate that the pregnancy had advanced to the end of the fifth month.

Placenta and Cord.

The placenta, as I have already stated, was torn through during extraction. The greater part, very thick, appeared quite normal; but at the edge there was a large infarct, over 2 in. long by 1 in. broad and 1 in. thick. The laceration during extraction seemed to have begun on the brittle tissue of this infarct. The portion of the placenta removed, some 4 in. in width, included the umbilical cord, which was 8 in. long.

The acute attack of pain on April 19th seemed to indicate rupture of the tubal sac into the left broad ligament, and a "posterior tubo-ligamentary pregnancy" (Taylor), as I found it to be at the operation. The lower boundary of the sac, in that case, was therefore the rectum. The pressure on the bowel caused constipation, as Mr. Taunton reported, and as was the case after admission into my wards, until the removal of the gauze packing. The placenta was not attached to the bowel, else there might have been diarrhoea (Freund). The fetus was living, therefore *Bacillus coli* infection, not rare in posterior tubo-ligamentary pregnancy, had not taken place.

The most important question, however, in regard to this case is the treatment of the sac. I fail to see how I could have adopted any safer method than that which seemed to me the only way to save the patient's life. The tearing through of the placenta was accidental, whilst on my attempting to remove the remainder so much haemorrhage occurred that I left it alone and packed the sac. Arterial blood spouted from the cut edges of the sac, but the purse-string suture checked it at once. The sac was secured to the lower edges of the abdominal wound, otherwise the packing would not have been effective. The packing was removed on the second day and the haemorrhage did not recur.

On the other hand, the disadvantages of this method, inevitable under the circumstances in my case, were clearly manifest to me. The cyst wall, let it be remembered, consisted not only of the posterior layer of the broad ligament but also of the adjacent peritoneum of Douglas's pouch. Therefore, when I drew tightly the purse-string suture on the cut edge of the cyst wall, the large intestine was dragged down, forming a sharp angle, so that obstruction would have occurred had I not relaxed the suture considerably. Then this same suture, as well as those which fixed the edges of the sac to the wound, did not come away until much local suppuration had taken place and the pus mixed with the sanies from the remains of the placenta made up a fetid semifluid substance which necessitated daily dressings of the sac.

Lastly, I dreaded the spread of the suppuration, as in Dr. Herbert Paterson's case;² but I feared much more the recurrence of haemorrhage, as in Mr. Malcolm's, to which I have already referred, and fortunately there was no more bleeding, and the suppuration did not extend. Still, I understand that Dr. Paterson and others find that sutures and ligatures may be dispensed with in the treatment of the fetal sac late in pregnancy, and I desire to learn how far this method guarantees the patient against that essential and imminent danger, never absent when the fetus is alive—namely, haemorrhage.

REFERENCES.

¹ An Operation between the Third and Fourth Months of Extra-uterine Gestation, with removal of a living fetus and much trouble from haemorrhage during convalescence, *Trans. Obstet. Soc. Lond.*, vol. xlv, p. 382. ² A Case of Extrauterine Gestation: Operation during the Sixth Month of Pregnancy, *Trans. Obstet. Soc. Lond.*, vol. xlvii, p. 326.

At the annual meeting of the Wolverhampton Sunday Hospital Collection Committee it was reported that the income was £634 as compared with £653 in the previous year. The money has been allocated as follows: General Hospital, £447; Eye Infirmary, £99; Women's Hospital, £49. The expenses have been slightly reduced.

A CASE OF TUBAL PREGNANCY WITH EARLY OPERATION.

By HOWARD F. WARNER, M.B., B.S.LOND.,
M.R.C.S.ENG., L.R.C.P.LOND.,
HAYWARD'S HEATH.

THE interest in this case lies not so much in its rarity, for such cases are by no means uncommon, but in the somewhat puzzling nature of the symptoms, their comparative mildness, and in the short period after actual rupture at which the abdomen was opened.

Mrs. X., aged 42, married three years, had had no children, but one very early miscarriage about two years ago. She had always suffered from spasmodic dysmenorrhoea, menorrhagia, and, since marriage, from dyspareunia. She complained that for two days she had had abdominal discomfort and pain passing through to the sacrum, exactly similar to the pain generally experienced with the menses, but more acute. She had hitherto been always regular, but at the present time was about one week overdue, and though there was a "show," the flow was not as copious as usual. There was great pain on attempting to micturate and considerable difficulty; the pain was also felt passing through into the rectum and in the right iliac fossa.

The patient was of a very neurotic temperament, and considering her age and previous menstrual history it seemed probable on the first visit that the symptoms might be due to a somewhat early menopause. Hot turpentine fomentations, warm douches, and rest in bed, together with a placebo, were ordered, and on the following day the pains were much better.

I heard nothing further of the patient for seven days, during which time she had been gradually getting about again; then

Posterior view of specimen. A, Glass rod passing firstly through secondary rupture in broad ligament, and then through primary rupture into the tube; B, external limit of sac in tube—the rod will not pass beyond this point; C, divided end of tube; this is closed up; D, ostium abdominale (closed); L, broad ligament, cut edge; V, ovary.

I was sent for, to find that the pains had come on again, and were now of a definitely colicky nature, the flow had become more profuse, and trouble with micturition was again present. On examination the patient complained of tenderness all over the abdomen, which, however, moved well on respiration; deep pressure was impossible anywhere, but the tenderness was most marked just above the pubes, in the right iliac fossa, and in the right loin. She also stated that the pain from the loin radiated downwards to the vagina and down the right thigh. The kidneys were not palpable, there was no superficial tenderness anywhere, and beyond determining that muscular resistance was greater in the right iliac fossa than in the left, the abdominal examination was very unsatisfactory owing to the general deep tenderness. There was no jaundice and no history pointing to gall stone. At this time the temperature was 98°, and the pulse (taken at the end of the visit) was 84, the tongue was furred and moist, but the general appearance of the patient was quite good. The attacks of pain lasted about half an hour and "doubled her up"; there was sweating with the pain, but no vomiting, and during the attacks she had felt faint, but there had been no loss of consciousness. She was not anaemic. The urine contained no pus, and, owing to menstruation, it was impossible to attach any value to the presence of blood, but at this time I thought the diagnosis lay between renal colic, tubal pregnancy aborting, and possibly appendicitis.

Vaginal examination revealed an enlarged and very tender cervix; the uterus was freely movable, normally placed, and extremely tender, giving the same pain as the dyspareunia on being touched; owing to the tenderness nothing further could be made out, except that the rectum was fuller than it should have been if the history were correct. Rectal examination

revealed nothing further, and no swelling could be felt in the pelvis. Castor oil was given and morphine $\frac{1}{4}$ grain, hypodermically, and two morphine suppositories ($\frac{1}{4}$ grain) were used at intervals during the night.

On the following day the condition had completely changed. The temperature was 99.5° and the pulse 120; the face had a definitely abdominal look, and for the first time the general appearance of the patient was not satisfactory. The pain was now mostly referred to the umbilical region and pelvis, and there had been vomiting as the result of the hypodermic injection of morphine on the previous day. The patient was restless but not anaemic, and was not anxious about her condition when not actually in pain. The pain was now more continuous and less colicky; the bowels had been freely moved three times after the castor oil, the motions being entirely liquid. Considering the diagnosis again I thought it unlikely that appendicitis could have lasted so long (twelve days) without any pyrexia hitherto, without the pain becoming localized and with the general condition keeping so satisfactory in spite of the diffuse abdominal pain, and also in the absence of general peritonitis to account for the diffuse pain. Renal colic was now unlikely, as most of the pain was umbilical and pelvic, was more continuous, the temperature was now raised, and the Hippocratic facies was becoming marked, and above all, the history of the case, revised in the light of its subsequent development, seemed to take on a new significance. I diagnosed right tubal pregnancy, probably aborting, and called in Mr. Buck, of the Sussex County Hospital, who came on the following morning.

Operation.

An anaesthetic was given, and with the muscles thoroughly relaxed it was possible to make out a doughy resistance in the right lateral fornix per vaginam, but nothing of the nature of a pelvic swelling; a small subserous fibroid was also felt in the anterior wall of the uterus (which doubtless accounts for other points in the patient's history); by the abdomen the examination was still negative. On opening the abdomen a swelling about the middle third of the right Fallopian tube was found, and a clot of blood rather larger than a walnut was adherent to the posterior surface of the broad ligament just below the tube. The tube, ovary, and part of the broad ligament were removed in the usual way, and less than an ounce of blood clot was found in Douglas's pouch and removed, and the abdomen closed.

On examining the specimen it was seen that the tube had ruptured into the broad ligament (possibly during the first attack of pain thirteen days previously), and that the broad ligament was now in the act of discharging the ovum through a small rupture on its posterior surface which must have been very recent on account of the very slight haemorrhage which had occurred, and was probably synchronous with the change for the worse which had occurred on the previous day, this being the first time that the peritoneum had actually been involved.

The ovum in this case cannot, at most, have been more than five weeks old before symptoms began, which in itself makes the case somewhat unusual, though by no means a record; but the interesting point, and one which should be emphasized, is the importance of early operation in doubtful cases of ectopic gestation. The haemorrhage (internal), pain, sleeplessness, and anxiety, if allowed to continue in the hope that medical means will suffice, must vastly prejudice the patient's chances when operation ultimately becomes necessary; and the surgeon is too often called in after the patient has been "watched" almost into the world to come, when the dangers, both operative and post-operative, are vastly increased, and at the best a slow and tedious convalescence is the result.

PERFORATIVE PERITONITIS FOLLOWING ENTERIC FEVER: OPERATION: RECOVERY.

By H. B. MYLVÁGANAM, F.R.C.S.,
SURGEON, GENERAL HOSPITAL, COLOMBO, CEYLON.

ALTHOUGH operative treatment for perforative peritonitis following enteric fever is the rational method of treatment, and although, at any rate in Colombo, such cases are frequently seen in the medical wards of the General Hospital and diagnosed early, the condition of the patients is so seldom favourable that surgeons rightly refrain from interfering with such cases. The vitality of a patient already lowered by this toxic disease, may not stand the additional strain of an operation attended with shock, under an anaesthetic. On the other hand under favourable circumstances, when such cases are left alone and if the severity of the primary infection is not great, there is some chance of such a case developing localized peritonitis and the inflammation terminating in an abscess which can be opened and drained under local anaesthesia.

Improved aseptic precautions and saline transfusions

and injections of strychnine, etc., constitute the armament of the present-day surgeon to oppose the danger of shock and secondary infection following laparotomy. But with all these precautions, who can foretell what course the primary disease is going to run? Therefore, it is always with a great deal of diffidence that a surgeon undertakes to operate on such cases.

This report is based on a case successfully operated on by me in December, 1907, and I may mention that it is the very first case ever successfully tackled in Ceylon. A few months ago, prior to this case, my colleague Dr. T. F. Garvin and I operated on a similar case, but the patient survived only three days after the operation.

The patient, a fairly-nourished male, aged about 30 years, was admitted into the General Hospital, Colombo, on December 14th, 1907, with the usual symptoms of peritonitis.

History.

It was elicited that he had been suffering from a mild type of fever and headache for some days prior, but that his illness had not been severe enough to confine him to his bed. In fact, he was discharging his duties as an attendant of the Victoria Eye Hospital until the day previous, when he felt a sensation inside his abdomen as if something had given way while he was lifting a heavy lotion bottle. This was soon followed by acute pain in the abdomen, vomiting, and tympanites.

On admission the abdominal parietes were rigid and tender; tympanites was well marked, obliterating even the hepatic dullness; the bowels were constipated, and the right thigh was flexed. Pain was referred to the umbilicus, where tenderness was most marked. The tongue was dry and furred. Pulse 108, rapid, but of fairly good tension; temperature 102° F. My house-surgeon ordered a castor oil and turpentine enema and half a grain of calomel internally.

Diagnosis.

When I saw the case I decided to operate at once. I was mainly influenced by the favourable condition of his pulse and his general appearance. Four of my colleagues who happened to be at the time at the hospital also saw the case, and the diagnosis arrived at was either perforative peritonitis caused by the rupture of an ulcer of the bowel in an ambulatory typhoid, or of a gangrenous appendix.

Operation.

I made a median incision under chloroform, extending from the umbilicus to the pubis, and on opening the peritoneal cavity exudation lymph was seen, and gas escaped. The small bowel was inflamed, and the coils about the region of the umbilicus were adherent by recent lymph. The escape of gas led me to think that there was undoubtedly a perforation of a hollow viscus. I first examined the caecum and the vermiform appendix, and found them quite intact. When I traced the ileum from its junction with the caecum upwards I discovered, about 2 ft. from the caecal end, a perforation large enough to admit the tip of my little finger. The surrounding area was infiltrated and thickened. There was extravasation of faecal matter among the coils of the gut. My attempts to close the perforation with Lembert sutures were frustrated by the sodden condition of the bowel, but I managed to close the perforation without much delay, and mopped out the peritoneal cavity below the level of the umbilicus with gauze mops soaked in normal saline. I did not disturb the bowels above or resort to irrigation of the peritoneal cavity—a practice which I have long since discontinued. A gauze drain was placed in the recto-vesical pouch, and the abdominal incision closed in three different layers. The perforated bowel was gently wrapped up in the free end of the omentum and placed just below the abdominal wound. Two pints of normal saline was transfused into each armpit, and strychnine and adrenalin, m x each, injected hypodermically. The pulse after the operation was 140. At 10 p.m. it was 108. The patient was fairly quiet; the saline and strychnine injections were repeated. At 12.30 a.m. the pulse was 118 and of fair volume. He complained of thirst. He was placed in Fowler's position and a saline enema (about 8 oz.) was given at 4 a.m.

Next morning (7.30 a.m.) the pulse was 120 and small. He had slept fairly well, complained of no pain over the abdomen, and had passed urine naturally; no motions and no flatus had been passed. The temperature was 101.2° F. A saline enema (3 iv) was ordered every third hour, and turpentine capsules (m v each) every fourth hour. At 4 p.m. the pulse was 120; he had passed flatus, but there was slight tympanites present. The turpentine was omitted; and eserine sulphate $\frac{1}{8}$ grain in a drachm of water given every second hour. At 8 p.m. the abdomen was tympanitic and distended; no flatus had passed; the pulse was small and rapid. The turpentine capsules were repeated. At 9.30 p.m. he had vomited once or twice; the pulse was 120, and he had abdominal pain. He had had no sleep, and trional 15 grains was ordered.

On the morning of December 16th the temperature was 98.4° F., the pulse 106 and of fair volume. He had passed flatus and the tympanites was much less. He had vomited several times, and had pain over the abdomen. The dressings were removed; the discharge was offensive and slightly faeculent in odour. In the evening the temperature was 101.4° F., the pulse 124. Pain was much less; he had passed flatus and felt more comfortable. Eserine was repeated every fourth hour.