disinfected his nine consecutive times. Mr. Maxwell was nearly as successful, and had only one septic result in fourteen tests. Clearly there is little wrong with a method which succeeds thirty-eight times out of thirty-nine. I would try to account for my own failures in two ways: sometimes when many operations have to be done, the repeated application of the disinfectant makes my skin rough, and, presumably, harder to disinfect. Also, I tried at one time to see whether a shorter immersion in the disinfecting solution would suffice. It was found that the results fell off whenever the hands were immersed for less than two minutes. We therefore now adhere scrupulously to our method, which is not less than three minutes' scrubbing with hot water and soap, and two minutes' immersion in a solution of biniodide of mercury in methylated spirit. Further, whilst doing this we look at the clock.⁴ Once the hands of a new and inexperienced assistant were tested, and found to be septic.

DISINFECTION OF THE PATIENT'S SKIN.

The solution of mercury biniodide in methylated spirit (1 in 500) now gives almost as good results in the disinfection of the skin of the patient. The best were obtained by Mr. Williamson, who disinfected the skin of the groin, scrotum, and abdomen twenty-one consecutive times. It is clear that as much depends upon the manner in which the methods are used as upon the methods themselves. We have now realised the extreme importance of extracting all the fat and sebaceous material before applying the disinfectant. This is done with ether or turpentine, after shaving and thorough soaping and scrubbing. Different regions present, as might be expected, different degrees of resistance. The scrotum is particularly hard to disinfect, and also the skin of the groin; these gave our only septic results. Out of forty-five tests of the patient's skin four were septic. The skin of the scrotum was tested thrice, and was aseptic twice and septic once. The skin of the groin was tested twenty-eight times, and was aseptic twenty-five times and septic three. The skin of the abdomen was tested nine times before operations on the gall bladder (3), urinary bladder (1), ovaries (2), vermiform appendix (3), and for removal of fibroma. These were all aseptic, as were also the results of two tests of the skin of the back; once before an operation on the kidney, and once before the opening of an abscess. It is satisfactory to know that the methods we use give such good results when applied to the abdomen. Sepsis is so much more dangerous there than in the case of the scrotum. The skin of the limbs is also particularly easy to disinfect. The skin of the leg was tested twice—once before the removal of a cartilage from the knee, and once before an operation for varix. As in all our other tests of the skin of the limbs, these were aseptic. The skin of the breast and the skin of the neck were tested, each on one occasion, and found to be sterile.

These results are a decided improvement upon those given in my last report. I attribute the improvement to the great care and intelligence with which Messrs. Maxwell, Williamson, and Douglas applied the methods. It would be interesting to learn whether anyone had yet succeeded in disinfecting the scalp.

RESULTS.

Sepsis depends upon a great many causes besides those dealt with in this report; and it is clear that much remains to be explained. For instance, the skin of the scrotum is exceedingly difficult to disinfect, and, with the exception of the scalp, has a higher proportion of sepsis than any other.

Nevertheless, the scrotal wounds have done exceedingly well. For instance, we have only had one suppuration in forty-three wounds made for the cure of chronic hydrocele of the tunica vaginalis. In the case which suppurated, the patient was very careless, and passed urine into his dressing. This comprises all the operations I have done for the radical cure of passive hydrocele of the tunica vaginalis. Another scrotal operation—that for the cure of varicocele—is also attended with little suppuration. Since 1894 I have done twenty-five, and none of them have suppurated. Thus the sepsis of the scrotal skin has evidently a very small influence upon the repair of scrotal wounds.

In the groin the commonest operation is that for the radical cure of non-strangulated inguinal hernia. When these are arranged in consecutive series of fifty, they show that the

improvement in methods has been accompanied by an improvement in results.

	Suppurated.					
First fifty	...	...	...	...	...	7
Second fifty	...	...	...	...	...	4
Third fifty	...	...	...	...	...	5
Fourth fifty	...	...	...	...	...	2

Total wounds 200

Total suppurations 18

This total of eighteen includes every case, whatever the cause, or however slight may have been the suppuration. It is not without significance to note that four times suppuration occurred in the first case prepared by the new house-surgeon. Once a septic sinus was present when the operation was done. Once the patient is known to have thrust his fingers down the dressing. Once the suppuration involved a single stitch hole. In several cases it was so superficial and slight that no deep sutures came out. I regret to say that the fifth series of fifty has begun badly, because we have had a suppuration already in the third case. The case of a boy who died from the anaesthetic is omitted from this series. The only consolation for this calamity is that the operation was one of necessity, for the sac contained adherent omentum, and he was unable to wear a truss.

If suppuration depended entirely upon infection from the skin, instruments, or materials, we should expect a low percentage in abdominal operations. I have, however, been disappointed in this respect. Abdominal operations vary so much that it would be hardly reasonable to lump them all together, as was done with radical cure of hernia, of hydrocele, and of varicocele. For instance, an appendix operation in which pus is met with, or a kidney extirpation with turbid urine, is not analogous to a median laparotomy for the removal of an ovarian tumour, hydrosalpinx, or ruptured Fallopian tube. However, in twenty-four median laparotomies for removal of diseased appendages, ovarian tumours, and so forth, there were three cases of suppuration. In each of these vomiting was exceedingly severe and persistent. In one it led to hæmorrhage, which ran through the dressing. I have no doubt that infection occurred from the exterior during the vomiting. I now endeavour to prevent this by more elaborate dressings. A few wounds were tested at the first dressing by inoculating a tube of nutrient gelatine or broth, with a stitch or with fluid from the drainage tube, or from the edge of the wound. Fluid from drainage tubes in scrotal wounds tested at the end of forty-eight hours was sterile twice and septic once. Stitches removed at the eighth or ninth day were tested eleven times. They were sterile five times and septic six. The edge of the wound was tested three times and was sterile on each occasion. I regret that in this report we have no cases which are known to have reached the highest standard of perfection. In the last report we gave some in which everything brought in contact with the wound was sterile, and also the wound itself when dressed.

NOTES AND REFERENCES.

¹ For method of preparation, see BRITISH MEDICAL JOURNAL, January 27th, 1894. ² BRITISH MEDICAL JOURNAL, January 27th, 1894. ³ Described in *Aseptic Surgery*, by C. B. Lockwood, p. 183. London: 1896. ⁴ After having watched various elaborate devices, and after having made inquiries, I have come to the conclusion that a simple earthenware hand-basin is the best and cheapest. This can be sterilised when necessary, and should be placed upon a simple slab, with provision for the escape of dirty water.

ON TUBAL ABORTION, WITH CLINICAL NOTES ON EIGHT CASES OF ECTOPIC GESTATION.

By J. FURNEAUX JORDAN, M.B., F.R.C.S.,

Surgeon to the Birmingham and Midland Counties Hospital for Women.

I PUT these cases of ectopic gestation on record because the pathology of every one of them is of interest. They are eight in number, are consecutive cases, and are all that have come under my treatment up to the present time. Their special interest to me lies in the fact that they strongly corroborate the views put forward by my colleague, Mr. John W. Taylor, at the British Gynaecological Society in 1894, in a paper on Intra-peritoneal Hæmatocele forming a Definite Tumour: The Relation of this to Unruptured Tubal Pregnancy. He showed clearly that, "a fairly copious hæmorrhage may becomelimited within the cavity of the peritoneum and form an intraperitoneal

hæmatocele with definite tumour," also that these hæmatoceles are due in the great majority of cases to hæmorrhage from the outer end of the tube while there is a pregnancy, a "tubal mole" inside the tube. In the records which are appended to these remarks it will be seen how far these views are supported; at the same time two of my cases, while resembling, yet differ in some respects from Mr. Taylor's. They resemble them in that the escaped blood became encapsuled by changes taking place in itself, by the distinct lamination of the outer layers of the clot; they differ in that the fœtus escaped into the interior of the tumour thus formed.

One of them, No. II, is, I believe, a case in which hæmorrhage took place from the outer end of the pregnant tube. The escaped blood surrounded this fimbriated end of the tube with a large clot, the outer layers of which formed a capsule, a spurious wall; more and more hæmorrhage occurred intermittently, increasing the size of the clot; the outer end of the tube was then torn open probably by the actual passage of the mole containing the fœtus. There was in fact an abortion of the fœtus through the torn open outer end of the tube into the interior of the encapsulated clot, which was so large that it extended as a definite tumour nearly up to the umbilicus. The placental remains were partly in the outer opened-out part of the tube and partly in the interior of the clot.

The other case, No. V, was, I believe, at its commencement similar to the above, and I believe that if it had then been operated upon a similar pathological condition would have been found. Instead of which the more fluid part of the blood was absorbed, and the tumour with its foetal contents became quiescent. It is well known that slight hæmorrhage, especially when intermittent, into the peritoneum will cause a peritonitis limited to the area adjacent to the hæmorrhage and causing adhesions of the clot to surrounding structures. In this case I believe that the small quiescent tumour, with the fœtus inside it and universally adherent, remained stationary for two years. At the end of that time further trouble supervened, for which I was consulted. Part of the intestinal wall adherent to the tumour had gradually thinned from pressure till finally intestinal gases diffused through the part thus weakened, and acute suppuration of the contents of the tumour followed. As will be seen from the record of the case, the pus which was evacuated was very foul, so much so that we had to have the window opened before we could proceed with the operation.

The condition of the clot in both No. II and No. VII was such that one could not but be struck with the truth of Mr. Taylor's view, that even fairly copious hæmorrhage into the peritoneum may result in the formation of a definite tumour. In both these cases there was a large mass, reaching in No. II nearly up to the umbilicus, the outline of which was perfectly well defined. After opening the abdomen the tumour felt like a not very tense ovarian cyst. From the surface of the tumour in both instances the slightly adherent bowel and omentum were separated without apparently injuring the wall in any way.

In both the mass (the tumour) was entirely due to blood clot, the degree of the clotting varied in different parts, but on the outside were layers of fibrin, pale in colour and sufficiently thick and strong to give it a well-marked outer wall.

I would also draw attention to the histories of these cases. There is such a uniformity in the symptoms that a knowledge of them may be of help to some of my readers in diagnosing such cases.

No. I had missed two menstrual periods, and then was losing on and off for twenty-two days before the operation.

No. II had missed two periods, and then had an attack of severe abdominal pain, followed by hæmorrhage and the passage of a decidua; hæmorrhage for eleven days before the operation. On the ninth day of the hæmorrhage a second attack of severe abdominal pain.

No. III.—No amenorrhœa; constant and severe loss for three months before operation.

No. IV.—Amenorrhœa for two months; very severe loss for five days before operation. Expelled a decidua-membrane three days before operation.

No. V.—Amenorrhœa for nearly four months before her so-called miscarriage two years before operation.

No. VI had missed two periods, then losing for seven weeks

before operation. Severe pain at the onset of the hæmorrhage.

No. VII went two weeks over her time, then losing on and off for six weeks before operation.

No. VIII went three weeks over her time, then severe loss for nine weeks before operation.

In every case the swelling due to the hæmorrhage into the peritoneum (the tube in No. VI) could be distinctly felt on examination. When there is much hæmorrhage it can be felt filling up Douglas's pouch, and even rising well into the abdomen above and behind the uterus. When small in quantity it may be located to one side, and may even push the uterus to the opposite side. This, however, I have never found to be more than to a slight extent. I need hardly point out how necessary it is to make an immediate and thorough examination in all cases where we have a history of a short period of amenorrhœa followed by severe abdominal pain and hæmorrhage, or even where there is the hæmorrhage without any preceding amenorrhœa. Failure to make the requisite examination, and therefore failure to carry out the proper surgical treatment may result in loss of life. All the cases were operated upon by me within a day or two of my seeing them. They all recovered, and are quite well now.

CASE I.—E. M., aged 26, was first seen June 1st, 1894, at the Women's Hospital, Birmingham.

History.—Married ten years; six children, the last one born twelve months ago. She menstruated regularly during lactation till two months ago, when the baby died. A few days before its death she had an attack of violent pain in the lower part of the abdomen; this subsided in a day or two, only to be followed by the sensation of a weight in the rectum and by severe pain on defecation. From the onset of her pain in the middle of March up to May 14th she saw nothing, missing two periods. On May 14th she began to lose, and was still doing so when first seen.

Condition on Admission.—I found the uterus pushed over to the left side, while behind and to the right of it was a large firmish mass, completely filling up the pouch of Douglas. Bimanually the fundus of the uterus could be distinguished from the tumour. I diagnosed tubal abortion and advised operation.

Operation and Result.—On June 5th I operated, and found a mass occupying the pelvis, adherent to the walls of Douglas's pouch, and pushing the uterus forwards and slightly to the left, while covering it were adherent omentum and sigmoid flexure. The tumour was so firm and well defined that I thought for a moment that my diagnosis was wrong, and that I had to deal with a small adherent cyst. In separating the adherent omentum, however, I pulled out with it part of the wall of the apparent cyst, and out welled masses of black blood clot. The "wall" consisted of pale-coloured fibrin caused by the coagulation of the blood. The outer end of the Fallopian tube of the right side merged with the clot, and on getting it out I found its outer half to be thickened and dilated and filled with firm clot, while the fimbriated opening seemed to have been torn open. I could not find any trace of a fœtus, but this I think is explained by her history. It will be remembered that she had a sudden attack of severe abdominal pain preceding her amenorrhœa. This I believe to have been due to hæmorrhage into the Fallopian tube in a very early stage of her tubal pregnancy. This would cause death of the fœtus and the formation of a tubal mole; further hæmorrhages taking place would cause the intra-peritoneal hæmatocele. There was, however, apparently a period of quiescence between the first hæmorrhage into the tube and the further hæmorrhage into the peritoneal cavity. She made an easy recovery.

CASE II.—On July 14th, 1896, I was telegraphed for to go and see a Mrs. W., of Devon, in Cornwall.

History.—Married in February, 1893, one child born January, 1895. Had always had good health. Had missed two periods, and then ten days ago had an attack of severe pain in the abdomen, followed by hæmorrhage and the passage of a decidua-membrane. The hæmorrhage persisted slightly. The day before my visit there was a second attack of severe abdominal pain, with collapse. Her medical attendant, Dr. Edwards, found on examining her a mass in Douglas's pouch—had noticed it getting larger, and diagnosing tubal pregnancy, sent for me.

Condition before Operation.—When I saw her on July 15th she had a quick but not very feeble pulse; moderate pallor. The temperature was 99°; the abdomen tender, with some distension of the lower part. A firm, smooth rounded mass could be felt extending more than half way up to the umbilicus. On bimanual examination I could just detect the fundus of the uterus in front of the mass, which completely filled Douglas's pouch. I diagnosed tubal abortion, and decided to operate at once.

Operation and Result.—On opening the abdomen I found a large tumour in the abdomen, feeling at first exactly like an ovarian cyst. The walls were smooth, and so firm that the coils of small intestine and mesentery adherent at places to it were separated without tearing the wall at all. I then saw that it was not a cyst, and in pulling it up into the abdomen my fingers went through a weak part of the wall into a cavity, out of which rushed large quantities of thick black blood. I immediately emptied it of the black clot and of a small fœtus about three inches in length. The emptied sac now came out easily, and was found to be continuous with the Fallopian tube. The outer part of the tube seemed to gradually merge with and become lost in the mass of clot. I removed the entire tube and sac, washed out and drained. She made a perfect recovery, and is now quite well.

Morbid Anatomy.—On further examining the specimen I found the outer wall of the sac to be made of simply laminated blood clot, and the outer end of the Fallopian tube was torn wide open and gaping like the expanded mouth of a trumpet. I have no doubt that here the hæmorrhage was from the outer end of the tube, that it was slight at first, went on gradually

increasing, and shortly before I saw her there was a sudden large increase and at the same time extrusion of the foetus. This would account for her sudden acute pain and collapse.

CASE III.—E. H., age 31, married two and a half years, came to the outpatient's room of the Women's Hospital on August 31st, 1896.

History.—Menstruation quite regular till three months ago. Since this date constant and severe loss.

Condition on Admission.—The patient was blanched. Uterus small, and pushed to the right side. *Per vaginam* a hard, rather tender, mass could be felt to the left of the uterus with the vessels of the vaginal roof pulsating beneath it. The upper limit of the tumour reached to the pelvic brim, while Douglas's pouch was rather full and distended. The diagnosis was left extrauterine pregnancy.

Operation.—September 4th. The left tube was very dilated, and at its outer end adherent to the cystic ovary, the two forming one mass, adherent to the back of the broad ligament and filling up Douglas's pouch. The cavity of the tube was continuous with that of a cyst of the ovary, and this cavity was filled with dark blood clot. I could not find any embryo. From her history I suspect that hæmorrhage into the tube took place so early in the pregnancy that the embryo perished soon after its conception. The tube on the right side was dilated at about its centre, and on cutting it open after its removal I found that a dark clot of blood was the cause of the dilatation.

CASE IV.—S. E., age 29, married nine years. Two children, the youngest age 7. First seen on February 3th, 1897.

History.—Menstruation regular as a rule, but amenorrhœa for the last two months. After missing a period at the beginning of January she began to suffer from pain in the abdomen, which lasted till February 1st, when she had an attack of acute pain in the abdomen, with collapse and vomiting. This pain was very severe for several hours, but with rest in bed and medical treatment it gradually subsided, and she got up on February 5th. The next day, the day on which she would have menstruated if she had been regular, the pain came on again with hæmorrhage, and the passage of clot and membrane. The hæmorrhage persisted till I saw her in consultation with Dr. Neal, of Smallheath, on February 8th.

Condition before Operation.—The abdomen was very tender in the hypogastric region, and especially on the right side. The whole of Douglas's pouch was occupied by a tender immobile mass, rising above the brim of the pelvis. The fundus of the uterus could be felt in front of the mass. Dr. Neal examined her on the 5th and again on the 8th, and he found the mass in Douglas's pouch much larger at the second examination than at the first.

Operation and Result.—February 13th. Filling up the whole of the pelvis and rising above the brim was a mass of dark black blood clot, adherent everywhere to bowel, uterus, and broad ligament. The clot was well defined, and surrounded the outer end of the tube, which was dilated by a firm ovoid clot. The whole of the clot and the tube were removed. Her recovery was rapid.

CASE V.—Mrs. M. B., age 36, married 12 years. One child, nearly eleven years old; previously to this had splendid health.

History.—Has spent most of her life in America, and after the birth of her child ten years ago she suffered from bearing down pain for five years; then while on a visit to England she was advised to wear a pessary, but could only do so for a short time, as it caused great pain. After stopping fourteen months in England she went back to America, and then about four years ago was seriously ill with malarial fever. Some time after her recovery from this she had a miscarriage, being two or three months pregnant; did not recover from this without a serious illness, being in bed for three months at New Orleans with pyæmia and peritonitis. That was two years ago. Ever since she has felt pain on and off in the right ovary, at times very acute; not much worse at her menstrual periods, which have been quite regular. Has been in England for two years in this condition. In June last, two or three weeks ago, while at Harlech, she got a severe chill, with sudden acute pain in the abdomen. This was on Jubilee day, June 22nd. She came home at once to Birmingham, and for the last fortnight has been in pain, with night sweating, loss of flesh, and rise of temperature every night to 101 or 102. Since her attack on Jubilee day she has felt a lump in the right side of the abdomen, gradually enlarging.

Condition before Operation.—When I saw her on July 2nd, with Dr. John Craig, I found the abdomen distended; acutely tender. Dulness in right side, extending above the umbilicus and to the left beyond the middle line, a thrill over dull area, Douglas's pouch tense and very tender. This hardly sounds like the history of an ectopic gestation; in fact my diagnosis was suppurating ovarian cyst.

Operation and Result.—I took her into my private hospital and operated on July 7th. After opening the abdomen I found large and small intestine and omentum firmly adherent over the top and sides of a large mass. I could see at once that it was hopeless to try and peel off the intestine, but I tried to separate the adherent omentum. In doing so I opened the wall of the mass, and out came over a pint and a half of foul, stinking, blood-stained pus. The wall of this abscess cavity, as far as I could tell, was a thin layer of very friable tissue, whether old laminated clot or inflammatory in origin I could not say. I washed out the cavity, and on exploring it found in it a three months putrid macerated foetus. I am bound to say that I was surprised. I washed out the peritoneal cavity and drained the two cavities separately, packing round the tube going into the abscess cavity with iodoform gauze. After some distension and difficulty in getting the bowels open on the second day, she recovered rapidly, and is now quite well.

I made minute inquiries into the history of this patient's miscarriage of two years earlier, and I found that in 1895 she missed her periods during February, March, April and May, that at the end of March, after missing two periods, she had an attack of severe pain in the abdomen, which was put down to acute ovaritis. The pain persisted, getting worse and then better alternately for seven weeks. She was then examined under chloroform, and told that she was four months pregnant. A few days after this—this was in May—she had some hæmor-

rhage from the uterus, and passed a membrane. She was told it was a miscarriage, but the foetus never came, and the hæmorrhage continuing she was curetted, but the uterus was empty. The foetus was then supposed to have come away unobserved. Three days after the curetting she had another severe attack of abdominal pain, accompanied by much shock and collapse. The diagnosis was rupture of an abscess into the peritoneal cavity, and she was taken into a private hospital at New Orleans for operation. No operation was however done, because she began to improve, and gradually regained good health, which has lasted until this last attack for which I was called in. As far as I could make out the large abscess sac was behind and above the uterus and left broad ligament, and I believe that at the time of her supposed miscarriage she had a tubal abortion with gradually increasing hæmorrhage into the peritoneal cavity. The blood clotted, and the outer layers of the clot became laminated and were strengthened by adhesions to surrounding peritoneum. Hæmorrhage into the centre went on slowly, causing a distension of the intraperitoneal hæmatocoele; probably at her last attack of severe pain, at the time of the uterine hæmorrhage. After four months' amenorrhœa the foetus itself escaped. Some of the clot was afterwards absorbed, and there remained quiescent in the abdomen the sac formed partly of laminated clot, partly of fibrous adhesions and containing the foetus. Through adhesions to bowel and thinning of its wall diffusion of intestinal gases at last took place, causing acute suppuration of the contents of the sac, rapid distension, and extreme thinning of its walls. I may be wrong in this view of what had happened; the alternative view is, of course, that a rupture took place into the broad ligament; that after a period of quiescence suppuration in the sac supervened. But if this had been the case, the adhesions to coils of small intestine and mesentery would have been of recent date, due to the last attack of suppuration, whereas they were so strong that the coils of bowel and the mesentery seemed to form part of the wall of the sac, having on the inner surface a little soft laminated fibrin. It was an absolute impossibility to separate the adherent viscera from any sac wall; also there was no sac wall strong enough to suture to the incision in the abdominal wall; and after washing out the peritoneal cavity and the abscess cavity, I had to rely on packing round the drainage tube of the latter with iodoform gauze to prevent further infection of the general peritoneum. The abscess cavity went right down behind uterus and broad ligament into Douglas's pouch. Owing to dense adhesions to the posterior surface and fundus of the uterus, and to what I took to be the top of the broad ligament, I was unable to find the Fallopian tube distinctly. I made no attempt to separate the adhesions, for my main endeavour was to do what was necessary for the patient and put her in the best way to recover, which, I am glad to say, she did.

CASE VI.—R. D., aged 34, married sixteen years. Was a patient of Mr Taylor's whom I saw on his absence from home.

History.—Eight years previously Mr. Taylor had performed Alexander's operation for her, and four years later he removed a left hydrosalpinx with a twisted pedicle. I took the following notes on September 1st, 1897: Was regular till May last, then missed her periods in June and July; began losing on July 10th, and has been losing on and off ever since. With the first loss she had an attack of severe abdominal pain lasting for a week, but has been somewhat easier since.

Condition before Operation.—Uterus normal in position, slightly enlarged, to the right of it but rather high up and slightly behind it, a firm, tender swelling could be felt.

Operation.—September 2nd I removed an unruptured tubal pregnancy in the uterine end of the tube larger than a walnut. It was so close to the uterus that my ligature included part of the uterine cornu. No blood in the peritoneal cavity; outer end of the tube quite normal in appearance.

Result.—Her recovery was very tedious, owing to the formation of a deep stitch abscess. The presence of such a large unruptured pregnancy so close to the uterus is, I think, worthy of record.

CASE VII.—E. J., aged 34, married eleven years. Has had five children, youngest aged fourteen months.

History.—Menstruation as a rule quite normal; missed her last period, going two weeks over her time. She then began to lose, and has been losing on and off ever since for six weeks. Not much pain.

Condition before Operation.—A distinctly tubal mass was felt in Douglas's pouch, chiefly to the left side and pushing the uterus slightly to the right. Acutely tender to palpation.

Operation and Result.—September 4th, when I removed a left tubal pregnancy. The outer end of the tube was adherent to a cystic ovary, the two forming one tumour very adherent to the back of the uterus and to Douglas's pouch. The hæmorrhage had taken place into the cystic ovary; the adhesions, too, between the tube and the ovary had been stretched so as to form an envelope to a large amount of clot between the tube and the

ovary. The clot was very firm and its outer part laminated and pale in colour. Her recovery was easy.

CASE VIII.—H. B., aged 25, married six years; three children, youngest eleven months old.

History.—She had been quite well up to three months ago, when she missed a period, going three weeks over her time. She was then suddenly seized with pain in the abdomen and collapse. This was immediately followed by hæmorrhage, which persisted and lately had amounted to flooding. When I first saw her on December 21st she was absolutely blanched, her mucous membranes being almost colourless.

Condition on Admission.—First seen in the Women's Hospital on December 21st, 1897. There could easily be felt behind the uterus, bulging down into Douglas's pouch and rising above well into the abdomen, a firm, well-defined mass. The fundus uteri could be made out in front of it.

Operation and Result.—Operation December 23rd, and found a large cyst-like mass, made up entirely of blood clot, the outer layers of which formed the spurious wall. Slight adhesions of omentum. The outer end of the left tube seemed lost in the mass. I removed all the clot and the left tube, and found its outer end dilated and occupied by firm clot. There was no trace of any foetus, but we must remember how early the first hæmorrhage—probably into the tube itself—occurred, and how soon, therefore, the embryo would be destroyed. She made a good recovery.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

DIPHThERIA OF THROAT, NARES, CONJUNCTIVÆ, AND URETHRA: SERUM TREATMENT: RECOVERY.

ON June 6th, at 8 P.M., I was summoned to attend A. B., male, aged 20. The history was that he had felt "shivery" for a day or two previously, and had some difficulty in swallowing. On examination, I found the fauces, tonsils, and uvula deeply congested but not patchy, and the cervical glands greatly swollen. The temperature was 99.8°, and the pulse 120. I diagnosed the case as one of commencing diphtheria, and ordered a lotion of perchloride of mercury (1 in 2,000) to be sprayed frequently, and another of 1 in 500 to swab the throat three or four times daily. I also gave tinct. ferri perchlor. $\mathfrak{m}$ xx, and quin. sulph. gr. j every three hours. Strong soups, milk, and alcohol were also given.

On the following day, June 7th, the temperature had risen to 101.8°. There was a greyish-white membrane on tonsils and uvula, and an acrid discharge from the nares, indicating extension of the disease to the nasal mucous membrane. There was also great swelling of the lower eyelids. On the 8th the temperature had risen to 103.8°; the membrane had spread over the soft palate, the discharge from the nares had increased, the eyelids were very swollen and there was membrane on the palpebral conjunctivæ. There was also a patch on the anterior lip of the meatus urinarius, causing difficulty in micturition. I had by this time received a supply of antidiphtherial serum from Burroughs, Wellcome, and Co. Of this I injected 20 c.cm. Improvement rapidly took place, but a similar dose had to be repeated on three other occasions, owing to rise of temperature. The case progressed without a single drawback, the membrane quickly disappearing from all the situations above mentioned. I feared greatly that the corneæ would be destroyed, but this fortunately did not take place, and the eyes have quite recovered. About a fortnight ago I had the secretions from the mouth and throat examined by the Clinical Research Association, and no Klebs-Loeffler bacilli could be discovered. There has, so far, been no sign of post-diphtherial paralysis, and the patient is now at the seaside and in excellent health. A curious point is that he had diphtheria six years ago.

I venture to quote this case because of the unusual number of mucous membranes which were simultaneously involved, and to show the rapid curative effect of the antidiphtherial serum in a case more than ordinarily virulent.

Beverley.

W. HERBERT GREGORY, M.D., C.M. Edin.

INVERSION OF THE UTERUS.

Mrs. F., aged 23 years, of this town, was delivered of her third child on Tuesday, June 21st, between 7 and 8 P.M. A midwife was in attendance. The labour was a little more lingering than the preceding ones, but everything went on all right. No traction was made on the cord by the midwife, nor any pressure on the fundus for expression. The after-birth

came away quite easily with a pain. The midwife told the patient and her friends that there was something more to come away—probably clots. The patient suffered from a constant bearing down, sometimes forcing, and always a feeling of something in the vagina. On Thursday, June 23rd, at 2 A.M., she got out of bed to pass water, and in straining something came down. The woman who attended her was sent for, and when she came advised that a doctor should be called in, as she did not know what it was. My assistant, Dr. Le Grand, went down, and when he saw the condition of things, sent for me. The uterus, about the size of a coconut, was turned completely inside out; we could make out no os, but could feel the left tube, the placental site being on the fundus and right upper side. The woman had no pain and no hæmorrhage, but was suffering from extreme collapse. Her condition was so serious that we agreed it would not be advisable to do more than return the mass into the vagina, and wait a few hours and give the woman a chance of rallying.

At 10 A.M. we gave chloroform, and after great difficulty Dr. Le Grand succeeded in reducing the inversion. After reduction there was no cervix, the os was as wide as the fundus, the sides of the uterus feeling quite straight. Any intention of keeping the hand in the uterus for contraction or washing out the cavity had to be abandoned owing to the serious condition of the woman. After half-an-hour's artificial respiration and alternate subcutaneous injections of ether and brandy, we had the pleasure of seeing life come back. She never had any trouble after. For two days the lochia was slightly offensive, with a little temperature; but after washing out with iodine water all ceased. The milk came, and on the Sunday but one after she came downstairs no worse than after an ordinary labour. The one thing that struck me in connection with the case is, that it is no use attempting any reduction before the patient is thoroughly under the anæsthetic; as much as you would produce to reduce hip-joint dislocation.

Alfreton.

JOHN J. BINGHAM, M.D.

THREE SIMULTANEOUS RASHES.

THE following case is of interest, as it shows an unusual prodromal rash of measles:

H. G., a little girl of 9, was said to be "seedy" on June 10th. I saw her on June 11th; she then had had some sickness and nose bleeding. Temperature was 102°, tongue white and coated, palate injected, and a rash out on both hands and both feet—very slightly on the forearm.

The rash consisted of bright coral pink spots, the size of a pin's head, that did not fade on pressure. On the 12th the condition was unchanged, except that the eyes looked heavy, and there was slight cough; nothing abnormal was to be heard in the chest. On the 13th the measles rash began to show on the face, and spread all over in twenty-four hours—marked running at the nose, with more bronchial catarrh than usual. Except that the rash was rather more profuse than usual, there was nothing noticeable about it: it was not purpuric or hæmorrhagic in the slightest. Here and there through it you could see the "coral" spots, now rather darker in tint, but not otherwise altered.

On the next day, the 14th, the little patient showed urticaria affecting the abdominal wall and both thighs, the spots rapidly fusing into big patches.

This caused no constitutional disturbance, as the temperature was then just beginning to fall, and the child made an uninteruptedly good recovery. The spots on the hands could still be traced after the fading of the measles, but gradually they faded into a pale greenish brown, and disappeared. All three rashes were perfectly visible at once. I may mention that her brother and sister subsequently went through an ordinary course of measles.

Haverfordwest. YARNOLD H. MILLS, M.B. Lond, F.R.C.S. Eng.

CHOREA COMPLICATING PREGNANCY.

Mrs. L. S. aged 21 years, 1-para, 7 months, came to me on March 20th, 1898, suffering from a minor degree of chorea, chiefly affecting the left side of her face and left arm although her whole body was in constant movement. She gave a history of freedom from rheumatism, scarlet fever, or