have lingered in the mind of anyone present was removed. Although the light was not all that could be desired, the presence of a black liquid behind the peritoneum was most evident. As soon as the peritoneum was cut, the black blood spurted out like the fluid from a tense monocystic ovarian tumour when it is wounded. The amount of blood which flowed out was enormous. It could not be measured, merely estimated, and it would be easy to exaggerate; but it seemed to my colleagues and myself as if the quantity was about as great as would be the whole amount of blood in the body of a healthy woman of the patient's size. When we remember that the blood had been re-making, and bursting out to an almost fatal extent for four days, this estimate may be considered fairly accurate. When the blood, which was quickly pressed out by manipulating the abdominal walls, ceased to flow freely, the distension had disappeared; the belly was quite flat. Several handfuls of clots were now cleared out of the pelvis, and bright arterial blood could then be seen welling up rapidly through the black fluid which remained. Fresh hæmorrhage had evidently already begun. The ruptured sac was found at the extreme end of the right Fallopian tube, with very active hæmorrhage going on from its interior. The tube and ovary were ligatured in the ordinary way, and removed. No embryo was ever seen.

There could be no possibility of washing away all the extravasated blood, as it had been evidently bathing every abdominal organ up to the diaphragm. The pelvis was emptied with the help of sponges, and all the blood within reach was washed out by means of a warm saline solution—common salt in boiled water, $\frac{1}{2}$ per cent. This was poured from a jug, while the intestines within reach were gently moved about by two fingers of the left hand introduced through the wound. A considerable quantity of the fluid was left in the pelvis, a large Koeberle's tube was put in position, and the abdominal wound was closed in the usual way. As it was anticipated that a large quantity of blood and sanguineous fluid would be discharged from the tube, the dressing applied consisted only of cotton wool and lint wrung out of corrosive sublimate solution, and packed round and above the orifice of the tube. This was kept in position by means of a flannel binder gently applied.

A large quantity of fluid was discharged into the dressings, and a large quantity was also drawn through the tube by means of an ordinary two-ounce glass syringe, with a piece of india-rubber tubing attached, of such a calibre as to enable it to be easily passed through the glass tube to the pelvic floor. The syringe was also frequently used to inject warm saline solution in the hope of breaking down the blood-clots and encouraging the discharge of the disintegrated blood within reach. The result was highly satisfactory. The bloody fluid continued to flow freely for several days, and the intestines and omentum seemed to be longer than usual in closing in round the tube and obstructing the free gravitation of the fluid to the pelvis.

The patient bore the operation well, and soon showed signs of improvement. The pulse, which was very quick and soft before the operation, fell to 100 within twelve hours; in two days it fell to 90, and never again rose appreciably higher. The temperature varied between 99° and 100°, for three days. During this time vomiting was severe, and though continuous since the administration of the anæsthetic, it began to cause us uneasiness. The pulse, however, continued satisfactory. From February 24th to March 8th, the temperature rose and fell from 99° to 102°. There was considerable hardening of the pelvic floor on the right side, with partial fixation of the uterus. Hardening could also be felt along the course of Poupert's ligament on the right side.

The hæmorrhage from the uterus, which had been almost continuous, though slight, before the operation, completely disappeared until March 1st. It came on then with a molimen like menstruation; the day before its appearance, the temperature rose for the first time to 102°. The glass tube was removed on February 28th; it had been kept in an unusually long time, owing to the continued flow of disintegrated blood, and precautions were taken to prevent it doing harm by pressure. A rubber tube was substituted for the glass one, and this was gradually shortened, and finally removed on March 3rd. The rest of the history has no event worth noting; the patient gradually recovered, and the last report of her, in June, was to the effect that she was quite well. Keeping to the experience of myself and of the gentlemen with whom I was associated in the treatment of the two cases outlined here, I should like to call attention to a few points.

1. There was an entire absence of symptoms pointing to abnormal pregnancy in both cases. Neither of them could exceed two months, and in both the Fallopian tube was distended to the bursting point without giving rise to such uneasiness as to evoke any complaint from the patient.

2. When the rupture occurred there were produced, in addition to

the signs of internal hæmorrhage, symptoms having no apparent relation to the pelvic viscera, and sufficiently prominent to obscure the diagnosis. This is a striking fact in the history of the first case, and, though Mr Priestley had diagnosed the second case, it was with considerable doubt as to the value to be assigned to the apparently irrelevant symptoms.

3. In making a vaginal examination in the second case it was found that the uterus seemed to be impeded in its movements, not fixed, and not free. During the operation the uterus was found to be surrounded with blood-clots, which explained the peculiar impression that had been conveyed in the examination. This fact must be of some diagnostic value in any similar case in which the hæmorrhage has not proved rapidly fatal, so that blood-clots have had time to form.

4. A minor point, to which attention has already been called, was the appearance of the black blood through the uninjured peritoneum. This is obviously of some importance where any doubt exists as to the diagnosis. The aspirator needle, if used to clear up a doubtful case, might fail to give reliable information if its point happened to be inserted into a blood-clot.

5. The use of the saline solution seems to me to be specially suitable for cases of this kind. Owing to its solvent effect on the blood, it probably aided greatly in carrying away all the fluid, which might have been subjected to the risk of infection by exposure or manipulation during the operation. To the viscera with which it came in contact it would be as irritating as non-sterilised blood-serum.

6. A physiological point of some interest may be noted. Mr. Priestley and I examined the urine, with the object of ascertaining whether it contained an unusual amount of colouring matter, or any abnormal constituents resulting from the presence of such a large amount of blood in contact, under pressure, with the peritoneum; but the results were entirely negative.

THREE UNUSUAL CASES OF ABDOMINAL SECTION IN PRIVATE PRACTICE,

UNDER THE CARE OF HERBERT W. WHITE, L.R.C.P. ED., L.F.P.S. GLAS.,
Bradford.

By STUART NAIRNE, F.F.P.S.G.,

Surgeon to the Glasgow Samaritan Hospital for Women.

THE three following cases are unusual, in so far as their occurrence so soon one after another in the practice of one man is concerned, in the condition of the patients that preceded the operations, in the various guesses as to the diagnosis, in the apparent gravity of the cases, and in the very pronounced benefit resulting from the use of antipyrin. The whole after-treatment of the cases was conducted by Mr. White, to whom I am indebted for the histories, and by whose active and judicious management the cases were undoubtedly saved.

CASE 1.—Mrs. G. came under the care of Mr. White on June 4th, 1886. She was suffering from latent peritonitis, with symptoms of septicæmia. She was grey, collapsed, dull, and semi-delirious; there was albumen in her urine; her pulse was 140, and her temperature 104° F. She was vomiting frequently, and had wasted considerably away. A large tumour protruded from the abdomen, filling the pelvis, and extending to the umbilicus. The case looked so hopeless that operation was delayed, and the patient put on tonic and antifebrile treatment. She had been allowed to get into this state for fear of falling into the hands of an operator, when, she was told, her death would be assured. She hung on for several days, and at length the operation was performed, June 29th, under an attack of peritonitis, her temperature being 102° and her pulse 120. Adhesions were universal, to the abdominal walls, the bowels, and the pelvic viscera. The pedicle was broad and thin. It was tied with the Staffordshire knot. A considerable number of ligatures were left inside the peritoneal cavity. The abdomen was carefully sponged out, not washed, and the incision in the abdominal walls entirely stitched up. She had a bad night, with vomiting, and her temperature rose to 104.6°. The operation was performed at 2.30 P.M., and at 8 P.M. her temperature was 104.6°. She was then given a powder of 20 grains of antipyrin, and the improvement was so marked and immediate as to establish the value of the drug in this instance. The temperature oscillated between 99.4° and 100.4° for some time, but never rose beyond the latter after the first powder of antipyrin. Troublesome diarrhoea commenced on the third day after the operation, and continued till July 9th, when her temperature became normal, and she made uninterrupted progress towards convalescence. In the first week in August she was well enough to go to Morecambe,

and on her return, September 5th, she expressed herself as feeling well, and had walked four miles the day before her return. The cyst was multilocular, filled with pus and grumous blood, which emitted a most fetid odour. After the operation I should also note she passed large quantities of fetid pus *per vaginam*.

CASE II.—Mrs. H. had suffered a long time from headache, pain in the groins, back, arms, and sides. She complained of a "catching in her breath." She had also bearing-down pain, pain on defecation, and dyspareunia. She was quite unable to follow her occupation. On examination the os was found indurated, patulous, and the womb enlarged one inch. A small, movable tumour, exquisitely painful to touch, was found in Douglas's pouch, and diagnosed as a prolapsed ovary. It was the right ovary. She had never been treated for uterine complaint. The "headache" and the "catches in her breath," and the other subjective phenomena, had been treated with no benefit. Operation for removal of the ovary was performed on June 30th, 1886. She vomited exceedingly after the operation, but did not become collapsed. After the first three days recovery was uninterrupted, and she was able to leave home for Bridlington in the first week of August. On September 6th Mr. White reports: "She has returned from Bridlington stronger in every way. She has resumed her household duties, all the symptoms are abated, dyspareunia is gone." This last statement is particularly interesting and important.

CASE III.—Mrs. P. had fallen downstairs a year ago, and afterwards complained of severe pain in her back. There was a history of another fall, two months after this, with a renewal of the pain, and finally, three months later, whilst lifting a weight, she became "dead sick" with a return of the old pain. From this time the pain persisted, and gradually became worse. When seen by Mr. White on July 19th, 1887, she was very much exhausted, sweating, cachectic, and suffering great pain. Her pulse was 120, and temperature 102° F. She had been totally confined to bed since April. Her complaint had been variously diagnosed as hæmatocoele, blood-clot, and general treatment had been adopted which did her no good. Examination *per vaginam* revealed a hard, ovoid tumour in Douglas's pouch, painful to touch, and about the size of a hen's egg. Abdominal section was performed under these unfavourable conditions on July 22nd. The tumour was found attached to the right corner of the uterus, and the ligature had to embrace part of the muscular tissue of the uterus for its complete removal. It was a scirrhus tumour, and weighed within a few grains of two ounces. She passed a very bad night after the operation, vomiting; was collapsed, and altogether very hopeless looking. On the third day, however, she began to mend, and thereafter made good progress towards recovery, she was able to leave for Morecambe on August 28th. Mr. White's report on September 6th says: "She is not entirely free from pain, but is greatly improved and able to get about."

These cases have been put on record as being an encouragement not to abandon any case, however bad, where there is a reasonable prospect of completing an operation. In all these cases the wound healed by first intention, and the stitches were removed about the eighth day. The second case had no trained nurse; the nursing in the first and third cases, provided by the Bradford Nursing Institution, was excellent; and the happy result of all three cannot but be a recommendation to the performance of such operations in patients' own homes.

RUPTURED EXTRA-UTERINE [GESTATION SUCCESSFULLY TREATED BY ABDOMINAL SECTION.]

By JAMES McNAUGHT, M.D., M.R.C.S.,
Newchurch-in-Rosendale.

As the treatment of ruptured Fallopian pregnancy by abdominal section is still *sub judice*, the following case successfully treated in that way is worth recording.

The patient was 34 years of age, and had been married for ten years. She had never been pregnant before, and had menstruated quite regularly up to two months previously. Menstruation had been always painful and rather scanty. During the last few days she had had pain at the lower part of the belly, and the bowels had been a little relaxed. At 3 p.m. on July 21st she went to the closet to pass water, was suddenly seized with severe pain at the lower part of the belly, and fainted. She managed after recovery to struggle into the house, and knock for her next door neighbour. She had again fainted several times before my arrival at 6 p.m. She was then pale and blanched, and had evanescent attacks of syncope and pulselessness, but in the intervals was able to tell me by degrees what had taken

place. She suspected she was pregnant; the breasts had been tender and enlarged, and she had had morning vomiting for two or three weeks. She complained of great tenderness at the lower part of the abdomen, chiefly on the left side, but also a little on the right. On examination the uterus was found pushed down generally and fixed; and as she lay on the left side a distinct bulging was felt on the left side of the pelvis pushing down the vagina. Stimulants were given freely; and Dr. Green, of Rawtenstall, was sent for at my request.

The following day she had somewhat recovered; the pulse was perceptible, but thready; much pain in abdomen; objective signs unaltered. The diagnosis of ruptured extra-uterine gestation was made, and after much pressing she consented to abdominal section. Her circumstances, she stated, entirely precluded the summoning of an operator from Manchester, and I was therefore somewhat reluctantly compelled to undertake the operation myself, with the kind assistance of Dr. Green, of Rawtenstall. An incision about four inches long was made and carried down to the peritoneum by careful dissection. The peritoneum, which seemed unusually thickened, bulged up slightly, and when incised by the point of the knife, venous blood escaped freely, which at first took me somewhat aback. As, however, I felt on examination that there was nothing but fluid behind the membrane, the intestines being far enough away, I freely slit it up to the length of the incision. A quantity of dark, venous, fluid blood then gushed out of the abdominal cavity. The rest was mopped out, and a few clots taken away from the bottom of Douglas's pouch. In the right Fallopian tube, half an inch from its junction with the uterus, was found a swelling the size of the yolk of an egg, and at the back facing Douglas's pouch there was an opening into it partially filled with blood-clot, admitting the tip of the little finger. Shreds of membrane hung out of this, and after tying a double ligature on each side, it was excised. Nothing was seen of a fetus. The belly was washed out with hot water, sponged dry, and the edges of the wound brought together with wire and silkworm gut sutures. No drainage-tube was inserted, as I had not a suitable one by me. Before the hot water was used the pulse was very feeble and the aspect sunken, but immediately afterwards there was a welcome revival. Hot bottles, etc., were applied in bed; one-sixth of a grain of morphia injection was given, and enemata of beef-tea and brandy every two hours. The wound was dressed with Gamgee's tissue, retained by broad strips of adhesive plaster.

For the next two days retching was very troublesome, nothing being retained. She had scarcely any sleep during the first two nights, and the belly was tender and painful. Morphia was given subcutaneously in small doses, and enemata of beef-tea and brandy continued.

July 26th. Restless night, retching, and feeling of nausea continued. Much pain in the belly, and some tympanites. The lowest stitch was removed; the edges of the wound, which were adherent, were drawn apart, and the peritoneum, which had united, scratched through. A good deal of perfectly odourless bloody serum escaped, and the belly was washed out, siphonwise, with hot, weak, perchloride solution, and a large drainage-tube inserted to the bottom of the pelvis.

Next day the retching had ceased, but she had passed a restless night. Tube aspirated, and a little serum withdrawn. She was now able to retain a little champagne.

The temperature so far had remained normal, or rather subnormal, but on the 28th it rose to 100°, the highest recorded during the progress of the case. The tube was withdrawn on the 29th, as nothing seemed to escape from it. The stitches were removed on August 3rd, the wound having all united by first intention, except where reopened. This was left to granulate, and it closed in about ten days. She was sitting up for a short time a fortnight after the operation, and was able to leave for her native place on August 27th.

This case resembles others recorded in one remarkable particular, namely, that the patient had been married for some years without pregnancy, and had never previously conceived. She gave a history of painful and scanty menstruation, and stated that connection had always been very painful to her, pointing, probably, to some mischief in the uterus or appendages. The fact that bulging was felt particularly in the left side of the vagina whilst the rupture was in the right tube is accounted for by the blood remaining fluid and gravitating to that side of the pelvis as she lay in the usual position for examination. The symptoms unmistakably pointed to internal hæmorrhage, and the fact of suspected pregnancy, and the fixing and pushing down of the uterus, left little doubt as to the nature of the case. The successful result may, perhaps, encourage others, who practise in country districts away from the reach of specialists, to undertake abdominal section, rather than wait the otherwise almost certainly unfavourable issue.