first two died within thirty-six hours, but the third lived five days. In his case the distension disappeared, the tube was removed, and he was taking nourishment; but the bases of his lungs had given out during the previous collapse, and he died from congestive pneumonia. In these cases, as soon as the glass tube is tied into the bowel, the latter is returned to the abdomen, and fixed to the wound with fine catgut sutures, in order that a faecal fistula and not an artificial anus should be formed. In a successful case the fistula ought not to be difficult to close. The thin fluid motion is conducted to a bottle of some disinfectant fluid by means of an india-rubber tube.

Finally, I have used the faecal drainage tube successfully in a case of excision of a portion of the colon for cancerous stricture. Altogether I have performed this operation four times. In the first three cases I attempted to establish the continuity of the bowel at once, and they all died. In this, the fourth, I drained off the rush of motion which follows the operation with the tube, and the patient has experienced nothing more severe than if colotomy alone had been done. In the first case I excised a malignant stricture of the sigmoid flexure, and sutured the ends of the bowel together. The operation was followed by copious stools, and a little faecal matter forced its way through to the peritoneum, and was rapidly fatal. In the second case I first relieved the distension by a right lumbar colotomy, and some weeks later excised the growth in the descending colon. The patient unfortunately died from the shock of the second operation. The third case occurred quite recently. It was one of a very large mass of cancer in the caecum under the care of my colleague, Dr. Glynn. After exploring it, I doubt if I should have proceeded further but for the fact that I had the advantage of the assistance of Mr. Mitchell Banks. We removed the mass as quickly as possible, and I restored continuity by my bone tube operation, and we were at any rate successful in getting the patient back to the ward in very good condition. He did well for a couple of days, but failed on the second, and died on the third, owing to sloughing of the cut end of the colon from loss of nutrition, I suppose owing to ligation of the ileocolic artery. Had I used the glass tube here, this patient's life would, I believe, have been saved.

In the last and still more recent case I decided to employ the safest proceeding, and to defer the question of re-establishing the continuity of the bowel to a future date. In her distended condition it was quite impossible to say certainly where the stricture was situated, but, with the help of her physician, Dr. Peirce of Hoylake, I explored first over the sigmoid flexure, and luckily dropped down on it at once. Some adhesions were ligatured and divided, and the bowel, including the malignant growth, brought out of the wound. It was carefully packed round with gauze, and the larger sized tube inserted into the upper distended end through a small opening, the bowel above being clamped. As soon as the tube, plugged with wool, had been securely tied in, the bowel was cut through below it just above the cancerous stricture. Then the mesentery was ligatured in portions, and it and the bowel below divided, a small glass tube being tied into the latter. As soon as this was done the operation was completed, for it was unnecessary to suture the bowel to the wound. When dressings had been applied, the plug of wool was removed from the upper tube, and many pints of motion came away during the next few hours. The plug was left in the smaller tube, as scarcely anything appeared in it. From the time of the operation the patient was in comfort. The tubes remained secure until the fourth day, when they were removed, at which time the ends of the bowel were thickly coated with lymph and firmly adherent everywhere. The subsequent improvement has been quite satisfactory. The two openings are to be seen side by side, but whether it will ever be wise to attempt to restore continuity is, I think, very doubtful. My opinion has always previously inclined to the double operation of first opening the caecum or ascending colon, and subsequently excising the malignant growth; but, on the whole, I have come to the conclusion that, wherever situated, the operation employed in the above case will prove to be the most successful method of removing malignant strictures of the colon.

The patient has now (July 12th) been well for some time. The lower end of the bowel has retracted out of sight. The upper end makes an excellent artificial anus.

TUBAL GESTATION: RUPTURE INTO PERITONEAL CAVITY: ABDOMINAL SECTION: RECOVERY.

By W. GIFFORD NASH, F.R.C.S.,
Bedford.

WHILST working Dr. Image's practice at Bury St. Edmunds, I was called to see a farmer's wife, aged 40, who had been married seventeen years, and had had eight children, but no abortions or miscarriages. Her youngest child was 5 years old. All her confinements had been natural, and never followed by any inflammatory trouble. For two years she had noticed a movable lump on the right side of her abdomen, which caused dragging pain and abdominal discomfort, increased at her periods.

When I saw her on January 13th, she complained of the movable lump and pain in the left lower abdomen. The movable lump was the right kidney, which could be displaced downwards into the iliac fossa, across the spine over the front of the left kidney, and upwards under the ribs. The uterus was retroverted, and to the left of it could be felt a small tender lump about the size of a dove's egg. On placing the patient in the genu-pectoral position, the lump could be pushed up out of reach. I diagnosed this as a congested, prolapsed, left ovary.

On January 17th, sexual intercourse took place, and produced violent pain and sickness. Next morning the abdomen was very tender, and the supposed prolapsed ovary rather larger. On January 21st, at 11 p.m., she was suddenly seized with violent pain on the left side of the abdomen—sickness, diarrhoea, cold sweats, and faintness. I saw her early on January 22nd, and found her extremely collapsed. She was blanched, and the pulse was about 130. The abdomen was distended and very tender. Her last natural period had begun on November 25th, and lasted four or five days. She expected her next period on December 25th, and on that day a slight show commenced, which lasted three days. There was no pain with it, and she had no idea she could be pregnant.

On vaginal examination, there was great pelvic tenderness. The lump was not so distinct, but there was more diffused fulness in its place. The uterus was enlarged, cervix soft, and os patulous. In the night there had been bearing-down pains, and the patient thought she had had a miscarriage. In the bed I found a dried and shrivelled membrane.

I came to the conclusion that there was a rupture of a tubal gestation on the left side into the cavity of the peritoneum. The reasons for this diagnosis were:

1. A period had been missed, and it was $7\frac{1}{2}$ weeks since the last day of the last natural period—that is, she had reached the time when rupture was most likely to occur.
2. There was a tender swelling on the left side of the uterus, which had become less distinct.
3. The uterus was enlarged, cervix soft, and os patulous.
4. There was milk in the breasts.
5. There was marked collapse, signifying internal hæmorrhage.

6. There was discharge of uterine decidua.

The reasons for the rupture being intraperitoneal were:

1. The great collapse, showing a large hæmorrhage.
2. The rapid onset of peritonitis.
3. The absence of the mass fixed on one side of the pelvis, pressing on the rectum, such as I have felt in previous cases where the rupture had taken place between the layers of the broad ligament.

On January 23rd, about noon, Dr. Boxall operated; on that morning the pulse was 96, the temperature 99° F., the face flushed, and features pinched. Under ether a median incision was made about 3 inches long. The peritoneal cavity contained a large quantity of dark-coloured fluid and clotted blood. This was sponged out and the left tube sought for. The enlarged tube, containing a mass about the size of a Tangerine orange, was pulled up out of the pelvis, and in doing so the mass burst, allowing the amniotic fluid and the fetus to escape. The latter was about 3 inches long. The tube was ligatured and removed. The clots were

removed from the pelvis and the peritoneal cavity sponged out and flushed with warm water. The wound was closed with silk sutures. The uterus was noticed to be considerably enlarged. At the operation the right kidney was examined and found to have a distinct mesonephron. The patient made an excellent recovery, getting up on the sixteenth day. The movable kidney is kept in place by a pad and belt.

DR. BOXALL'S DESCRIPTION OF THE PARTS REMOVED.—The sac occupies the outer half of the left Fallopian tube, and is as large as a duck's egg. The abdominal orifice of the tube is patent and patulous, easily admitting the point of the uterine sound. The cut uterine end of the tube is also patent. The ovary lies beneath the sac. A well-organised band of adhesion 1 inch in length runs from the ovary to the sac. On the surface, at the upper part of the sac, are evidences of recent inflammation and portions of adherent blood clot. Rupture has taken place through that part of the sac wall which was nearest to the uterus, on the upper and anterior aspect. The rent is irregularly ovoid, $\frac{3}{4}$ -inch in length. The peritoneum is torn to a corresponding extent. There is no appreciable effusion of blood beneath the peritoneal covering. The rudimentary placenta is implanted on the highest part of the sac wall, the attachment of the cord being situated immediately external to the site of rupture. The cord is 4 inches long. The foetus, which at the time of the operation was living, measures $2\frac{3}{4}$ inches from vertex to breech.

CRANIECTOMY FOR DOUBLE OPTIC NEURITIS WITH MICROCEPHALY.

By R. SHALDERS MILLER, F.R.C.S.,
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THE case here reported was one presenting such severe symptoms, and the treatment was so promptly followed by relief, that early publication may perhaps be justified without waiting for the further improvement which may reasonably be looked for.

The patient was a boy, 8 months old, microcephalic and exhibiting double optic neuritis; the resulting blindness being the cause of his parents' seeking treatment for him at the Western Ophthalmic Hospital. The spine and limbs were almost constantly extended and rigid, the thumbs were strongly adducted and the fingers firmly flexed over them; the legs also were tightly adducted, the right being crossed in front of the left. There was consequently much trouble in washing the child properly. The genital organs were somewhat peculiar, the penis being very small and retracted, so that only empty foreskin presented, but there was no phimosis; the right testicle was absent from the scrotum and canal, while the left was just outside the external abdominal ring. The urine was never projected in a stream, but dribbled away. There was very marked nystagmus and convergent squint, and the eyeballs were deeply drawn into the orbits, giving the child an aged and pained expression. Ophthalmoscopically there appeared severe optic neuritis and atrophy in both eyes, with some patches of choroidal pigment in the right. Though the pupils were dilated with atropine, the nystagmus prevented the possibility of making anything like an exact drawing of the fundus oculi. Vision was manifestly reduced to mere perception of a strong light; the eyes never resting on any object. Swallowing was generally easy, but the child's attention had to be excited by moving the bottle-nipple about between the lips before sucking movements were initiated. When the legs happened not to be firmly extended, the knee-jerk was readily produced. The facial bones were well developed, the lower middle incisors were well through the gums and all the cranial sutures were completely ossified, no trace of a fontanelle being detectable. The mother stated that there was no soft space on the head at birth. The child had been born with the aid of forceps, which had not in any way marked the head or face. The coronal edge of the frontal bone was thick and raised above the parietals, and the left parietal bone was distinctly flatter than the right. All bony eminences on the cranium were but slightly marked, and the forehead was receding. The circumference around the upper margins of the orbits and the occipital protuberance was $15\frac{1}{2}$ inches, which is about the average measurement for a child of four months, that is, half the age of this child. The frontal eminences were only one inch from centre to centre; the forehead therefore was extremely narrow. The child was very strongly built, very restless, cried a good deal, was con-

stipated habitually, but seldom sick. It displayed very little intellectual activity.

On March 21st. 1892, the head was shaved, and an antiseptic dressing put on. On the evening of this day the child was very nearly asphyxiated owing to ataxic deglutition. On the next day a linear craniectomy was performed. The chloroform was skilfully administered by my friend, Dr. Hulbert, of Windsor. This was no easy task, as the child's pulse was ordinarily irregular in force, and shortly after the operation was begun pulsation at the wrist quite ceased, but was restored by applying a large hot antiseptic sponge to the head, as recommended by Mr. Victor Horsley, and inflating the chest with oxygen from one of Brin's cylinders. This proceeding had to be repeated once or twice, but as more and more bone was removed the pulse continuously improved till, at the end of the operation, it was strong and perfectly regular in force and rhythm. The length of the bony excision was a little over 3 inches, beginning in front at the inner side of the left frontal eminence, and extending backwards parallel to the sagittal suture. The opening was $\frac{1}{2}$ -inch wide, and from each end of its outer edge a short branch cut was made with gouge forceps, so as to leave the outer boundary of the bone wound in the form of a projecting flap unsupported at its two ends, thus allowing of some subsequent eversion by the brain pressure. The periosteum was removed from the whole area of the intended bone wound before using the trephine with which the osseous section was commenced, all the rest of the bone being cut away with forceps. The hæmorrhage was very slight, being mainly venous oozing from the dura mater, as that was separated from the superjacent bone. No vessels were tied. The scalp was replaced, and fixed with seven or eight silver sutures.

The child made an uninterrupted recovery, union of the scalp taking place throughout by first intention. The temperature, taken always in the rectum, never exceeded 100° F., reaching that on only three occasions, and was promptly reduced by incising the upper front gums; the corresponding teeth at once appeared, and grew freely. The child took each night a powder containing hydrarg. c. cretâ gr. j, sodii bicarb. gr. ij, and sodii bromid. gr. ij.

The spastic condition of the limbs diminished from the time of the operation, and it was observable that on the day after there was no spasm at all in the right arm and hand, while a little remained for three or four days in the left. In a week both testicles were well down in the scrotum, the penis had emerged from its concealment, and the urine was projected in a vigorous stream. Some of the sutures were removed on the eighth day, and the others, one or two daily, till the eleventh day, when the child left the hospital completely healed. During this time the sight appreciably improved, the child noticing a hand in a good light; all nystagmus and squint disappeared, the eyeballs came forward in the orbits, and the little patient assumed the natural expression of a baby. Sucking and swallowing were prompt and spontaneous.

Five weeks after the operation, the circumference of the head, at the same level as before, had increased to 16 inches exactly, that is to say, a gain of $\frac{1}{2}$ ths of an inch, but the distance between the centres of the frontal eminences had increased by nearly half an inch.

A few days later still the child was able to stand, holding on by its hands to the upright bars of a nursery fender. The vision had further improved, as evidenced by the child's following with its eyes any distinct objects moving about, and the intelligence had so increased that the little patient laughed like any other baby when played with and talked to after the manner of mothers and nurses.

The child was seen again on May 18th, 1892. The vision then was apparently still more acute, the intellectual activity greater, and the general health excellent. The notes of the case, which are here summarised, are for the most part due to Miss Boyce, the sister-in-charge at the Western Ophthalmic Hospital.

By Imperial decree, dated June 13th, a Medical Department of the German Imperial Naval Office was created. The administration of the new department is provisionally placed under the direction of Dr. Wenzel, Surgeon-General, First Class.