ENTERECTOMY FOR GANGRENOUS HERNIA :

WITH AN ACCOUNT OF TWO SUCCESSFUL CASES.

By W. P. MONTGOMERY, M.A. OXON., B.S., M.B. LOND.,
F.R.C.S.,Surgeon to the Crumpsall and to the Ancoats Hospitals, Manchester;
late Resident Surgical Officer, Manchester Royal Infirmary.

THE interest which the question of the treatment of gangrenous hernia is now exciting makes the following successful cases of resection and primary suture worthy of record. They were both operated on in the Manchester Royal Infirmary, and I am indebted to Mr. Hardie and to Mr. Southam, for whom I was respectively acting at the time, for permission to publish them.

CASE I.

History.—Mrs. E., aged 29, was admitted on May 2nd, 1898. She had a femoral hernia on the right side of two years' duration, but it had been always reducible until three days before admission. After an attack of vomiting and diarrhoea which lasted twenty-four hours, the hernia came down and could not be returned. The diarrhoea ceased, but for thirty-six hours the vomiting continued, and twelve hours before admission became faecal. Taxis had been unsuccessfully tried.

Condition on Admission.—A right femoral hernia was found, 3 inches in its longest diameter, very tense and with no impulse. The tongue was dry and furred, and there was slight abdominal distension. The pulse was fair.

Operation.—The sac contained half an ounce of faecal, blood-stained fluid, and 3 inches of small intestine, much congested and with sloughy gangrenous patches. The gut was very tightly nipped at Gimbernat's ligament, and a linear perforation was found there. There was no omentum in the sac. The wound was enlarged upwards and the coil brought well into view. The mesentery was in good condition. The gut was clamped widely above and below with rubber tubing, and 7 inches removed with a small V-shaped portion of mesentery. The divided mesentery was first "tacked" with a continuous silk suture, and the same thread was made to unite the peritoneal and muscular coats of the mesenteric half of the circumference of the gut. Then the mucous membrane was sutured with another continuous suture. A third suture was used for the peritoneal and muscular coats of the remaining half circumference. The gut was reduced, the sac ligatured and cut away, and the wound drained by a strip of gauze. The operation lasted fifty minutes.

After-History.—The after-progress was quite uneventful. Flatus was passed during the night, and there was never any abdominal distension nor sickness. Warm water and tea were given during the first twenty-four hours, and then the fluid diet gradually increased. An enema was given on the eighth day, and then bread and milk allowed. The drain was removed on the third and the sutures on the tenth day. The wound healed without suppuration, and the patient was allowed up in three weeks, and went home in four. I saw her nine months later. There was some bulging of the wall near the scar, and she was advised to wear a light truss.

CASE II.

History.—Mrs. R., aged 35, was admitted on February 7th, 1899. She had had a small right-sided reducible femoral hernia for six months. Symptoms of strangulation had existed for forty-eight hours, and faecal vomiting for twenty-four hours. No flatus had been passed for forty-eight hours. Her general condition was fair, but there was considerable abdominal distension.

Operation.—A small knuckle of gut was found, gangrenous and perforated at its apex; the sac also was gangrenous. Four inches were resected and sutured in the way described in Case I. As there was much distension the upper segment was allowed to empty itself as completely as possible before suture. The wound was drained by a strip of gauze. The operation lasted 50 minutes.

After-History.—Flatus was passed during the first twenty-four hours. The bowels were moved naturally on the fourth day. The wound healed without suppuration, and the patient was discharged in a month.

The plan of suture adopted in these two cases seemed most convenient. If the mucous membrane is first united there is a little difficulty in accurately suturing the peritoneal coats at the mesenteric angle. As Mr. Barker has lately pointed out,¹ cases of gangrenous hernia fall into three groups. In the worst class of case simple incision of the gut is alone possible. In the others the choice is between primary and secondary suture after resection.

Juillard's secondary suture will be the safer plan if the upper segment of the gut be much distended, or the condition of its walls doubtful. The operation time will be probably eight to ten minutes shorter than if primary suture be attempted. But the mortality of the second part of the operation is considerable. Makins put it at 5 per cent.² If the intestine be not much distended, and if the patient can bear a few extra minutes on the table, the suture should be primary.

Wallace,³ analysing the cases in St. Thomas's for the ten years 1888-97, notes that resection and primary suture was performed eleven times for gangrenous hernia with two successes. Of the nine failures, in only two was the suture

ine found defective *post mortem*. In the others the death was due either to exhaustion or to gangrene and perforation of the gut higher up.

No doubt more careful selection of the cases with regard to distension and disease of the gut wall of the upper segment will much improve the operation mortality.

During the last two years 9 cases of gangrenous hernia were operated on in the Manchester Royal Infirmary. In 4 the loop was simply incised. They all died within forty-eight hours. One case was successfully treated on Juillard's plan, the secondary suture being carried out eight days after the resection. Four cases were treated by resection and primary suture with three successes. This includes the 2 cases here reported. The one death followed the resection of a gangrenous cecum.

The button, probably with a certain amount of reason,⁴ was not used in any acute case.

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, December 23rd, 1899. ² St. Thomas's Hospital Reports, vol. xiii, p. 181. ³ St. Thomas's Hospital Reports: new series: vol. xxvi. ⁴ Mr. J. Hutchinson, jun., in discussion at Clinical Society (BRITISH MEDICAL JOURNAL, December 2nd, 1899) says that 7 per cent. of recoveries followed the use of the button, against 40 per cent. following direct suture.

VALVULAR DRAINAGE TUBES IN EMPYEMA.

By WILLIAM WILLIAMS, M.D.,
Physician, Royal Southern Hospital, Liverpool.

THE accompanying diagram represents an apparatus for draining or pumping out an empyema which I invented in 1887 with the aid of Dr. R. Jackson, now of St. Helens, but who at that time was house-surgeon at the Royal Southern Hospital.

It is fully described in an article which I published in the BRITISH MEDICAL JOURNAL of May 18th, 1889. I have since made a slight alteration, but in detail only, in the air-tight joint at the back of the shield. The sketch shows the modification. A short bit of rubber tubing here overlaps the metal tube at the back of the shield, and also overlaps the drainage tube passing through the shield, so making a very secure joint.

The sketch shows the mechanism put together—complete. When being applied all the parts are, of course, separate; the drainage tube is first introduced into the chest, next the shield is passed up over it—the short rubber tube at the back of the shield already alluded to having been turned back on itself to allow of this being done—next this portion is returned and the joint secured. The best valve is made by flattening a tube of thin rubber, and such a one is that shown above.

I wish particularly to point out that indiarubber valves cannot be depended upon to act properly in these cases unless, when in use, they are immersed in water, the adhesive and the drying qualities of the purulent discharge rendering them liable to be glued up. I consider, therefore, that Drs.

Hutton and Baylor, who have recently written on this subject, err in not immersing the valves they use in some antiseptic liquid. A bottle containing a 2 per cent. solution of carbolic acid in water to the depth of 2 or 3 inches, just to cover the valve, forms at once a handy and cleanly way of disposing of the discharge, while it also ensures the efficiency of the valve; the patient, too, is able to be up and about with the minimum of inconvenience; the bottle he usually deposits in one of his pockets. In my former article on the subject, washing out the chest was advocated; it was, however, only done in a few cases, and the practice is proved to be quite unnecessary, if not hurtful, in ordinary cases.

The following case of tuberculous empyema is, so far as I can ascertain, the only one of the kind that has been cured.

W. W., aged 37, was admitted into the Royal Southern Hospital on December 9th, 1897. He was suffering and in great distress from dyspnoea, which had come on three days previously, though he had been ailing altogether some six weeks. He was unable to lie on the right side. The whole of the left side of the chest appeared fuller than the right; it was motionless, or nearly so, during respiration, and the percussion note was super-resonant above and dull below. The right apex was dull, and there was much increase of vocal resonance, though not enough to prove the presence of a cavity at this point. Some thin watery pus was aspirated from the left base, and the case was entered as one of pyopneumothorax, with tuberculous of both lungs. The chest was now opened, and the above-described tube introduced, with much relief to the distress. The note next day was, "Temperature 100°; dyspnoea absent; cavity in the left apex." There were numerous whitish flakes in the discharge, and the tube often became blocked by them. Blocking of the drainage tube merely means that something which requires to be removed from within the chest has been sucked into it. All that is necessary to do on such occasions is to change the drainage tube in use for a fresh one.

He was soon up and about the ward; and steady progress took place in his general condition for four months. Weight, January 3rd, 8 st., 7 lb.; March 28th, 9 st., 3 lb. A fever of a hectic type, however, never left him, the temperature never going beyond 101° except on one occasion, when it reached 103°.

On April 1st he left for the convalescent home. On April 16th he returned. We now found that the tube had been forced out of the chest, and that the end of it lay doubled up beneath the shield, while the opening in the chest wall was healed. This is an experience generally met with in cases treated by this means. He had very little cough; he was thin, but always declared himself to be well. His empyema was cured, and he left the hospital on April 16th.

From time to time during the following two months I called to see him. Sometimes he would be out; but on each of the occasions on which I examined his chest I found ample evidence in both lungs that the tuberculous mischief was in rapid progress. The drying up of the empyema seemed to have caused this unfavourable change. He died towards the end of June. There was no return of the empyema.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

ACUTE ORCHITIS IN AN INFANT ELEVEN WEEKS OLD.

A CHILD, aged 11 weeks, born of healthy parents and itself free from any organic disease, was being hand-fed, and suffered considerably from dyspepsia. In consequence it was fretful, very restless, had bad nights, and required a great deal of the nurse's attention. Circumcision had been performed, and the wound was all but healed. On the morning of October 19th, 1899, the nurse reported that the child had been constantly vomiting throughout the night, had taken little or no food, and had severe crying fits. She also had noticed that morning a "swelling in the groin." The baby looked ill, was feverish, and evidently in pain. On examination I found the right side of the scrotum swollen, hot, and tender to the touch; there were no inguinal glands, and the circumcision wound was all but healed and healthy. The right testicle could be felt at the bottom of the scrotum; it was hard, double its natural size, and exquisitely tender. Above it, surrounding the cord, and extending up to the ring, the swelling felt almost boggy to the touch. The left side of the scrotum was natural.

Being in doubt as to the nature of the swelling above the testicle, I asked Mr. Clinton Dent to see the case with me, and this he did some twelve or thirteen hours after I had seen the child in the morning. The condition of the parts as far as the right side was concerned remained unchanged, but the left side was swollen, and this was due to a hydrocele. Mr. Dent considered the swelling above the inflamed testicle

to be due to an oedema of the tissues surrounding the cord, and from the termination of the case this was no doubt the correct explanation.

What was the cause of the orchitis? There had been no acute illness such as influenza or mumps, no injury to the urethral mucous membrane, and there was evidently no infection of the circumcision wound, as it was practically healed, and there were no inflamed inguinal glands.

I think the inflamed testicle was probably due to an injury, either by the infant itself in its restless state, or more probably by the nurse in washing the child or applying its nappkins. With opium internally and hot fomentations to the parts, followed up by cold, and support of the scrotum, the whole thing subsided. I saw the child on November 14th, a little over four weeks from the beginning of the attack, and there was no difference between the right testicle and its fellow.

South Kensington, S.W.

F. ASHTON WARNER, F.R.C.S.E.

FRACTURE OF BOTH CLAVICLES.

HAVING been interested by the account of the case of simultaneous fracture of both clavicles given in the BRITISH MEDICAL JOURNAL of December 9th, 1899, by Dr. Laing. I think it will be of advantage to record another case which came under my observation during my tenure of office as house-surgeon in the Glasgow Royal Infirmary. A powerful man, engaged in shunting waggons at a pithead, was struck on each shoulder by the buffers of two waggons which were being shunted against one another. He was admitted under Mr. H. E. Clark, senior surgeon, when he was found to have sustained a simple fracture of both clavicles, the obliquity of the fractures being in the usual direction. As far as I have been able to ascertain, the method of production in this case may be regarded as unique.

Glasgow.

JAMES BATTERSBY, F.R.C.S.

RECTAL FEEDING IN EXHAUSTION FOLLOWING CHILDREN'S AILMENTS.

DURING the past summer months I have found nutrient injections by the bowel very valuable for children suffering from extreme exhaustion following diarrhoea. I am confident that it has been the means of saving more than one child's life—especially where they were totally unable to take any nourishment by the mouth—and the same treatment will apply to the cases of bronchitis and bronchopneumonia. I attach importance to placing the nutrient enemata as high up into the large bowel as possible, instead of just injecting them within the rectum with a ball syringe, which is the usual custom when these injections are given. They are more likely to be retained, absorption takes place more quickly and readily, and the irritation usually caused is avoided.

Before commencing the injections it is as well, if the child is not too collapsed, to flush out the bowel with 2 or 3 pints of sterilised water at a temperature of about 90° F., to which has been previously added a little medical izar (1 drachm to a quart). The nutrient enemata may be prepared in various ways, but I have found the following answer admirably: One egg beaten up; Valentine's meat-juice, 1 tablespoonful; milk (sterilised), 4 ozs.; brandy, $\frac{1}{2}$ oz. (1 tablespoonful); salt, nearly $\frac{1}{2}$ teaspoonful; sterilised water, 5 ozs. This is mixed and 2 ozs. injected warm every two hours.

I use a Jacques soft red-rubber catheter, Nos. 10 or 12, and a glass syringe of the capacity of 2 fluid ounces. The syringe should first be filled with the injection, the catheter attached, and the piston pressed down until the injection reaches the eye of the catheter to expel all the air. The child should be placed on its back in the nurse's lap with its knees raised and legs separated. A soft towel having been placed beneath the child's buttocks, the end of the catheter is moistened and pushed gently into the rectum as far as it will go; a little of the fluid is injected, and it will then be found that the catheter can be pushed further on. This process is repeated until the catheter cannot well be got any higher. Sometimes the whole length may be introduced into the bowel in this way. The whole of the contents of the syringe is now injected slowly; if necessary, the syringe may be removed and filled again without removing the catheter. After a minute