general infection are diminished in proportion to the amount of the poison we are able to remove. Acting on this belief, I am now in the habit of squeezing out the contents through the "evacuatory incision." Before or after the relief of the obstruction, as the case may require, the bowel is passed between the finger and thumb, the assistant meanwhile so securing the "evacuatory incision," that when pressure is exercised on the proximal segment the intestinal contents cannot pass on into the distal but must escape through the opening, and *vice versa* preventing the passage of the contents into the proximal segment when the distal is squeezed. When the bowel is much distended, and especially if there is any very great length involved, this squeezing out of the contents may have to be repeated several times, the bowel being taken up at different points and squeezed onwards or outwards. In such cases it is sometimes advantageous to make more than one "evacuatory incision" in order to lessen the time by shortening the extent of the canal through which its contents have to be squeezed. This stage of the operation is completed by closing the "evacuatory incision" with a continuous Lembert suture, and carefully cleansing the parts before returning the gut into the abdominal cavity.

The amount of handling of the intestines required in order to effect an approximately complete evacuation of their contents is necessarily considerable, but, contrary I believe to what would be expected and is usually supposed, the effect is beneficial rather than otherwise. I have not had a case where, so far as I can judge, it has not been so. If the bowel has not lost all its power of contraction, the squeezing seems to act as a stimulant to the muscular coat, and at the same time the vessels are to some extent relieved of their engorgement. It is a good sign if the bowel wrinkles after being emptied, as it indicates some contractile power on the part of the muscular coat; and it need hardly be pointed out that it is a still better sign if the bowel tends to evacuate its contents after the incision has been made independently of any squeezing.

In cases of peritonitis where the cause of bowel distension is paralysis of the muscular coat from inflammation of its serous covering, much good seems to follow the insertion of a solution of magnesium sulphate through the "evacuatory incision" just prior to its closure. After the contents have been thoroughly squeezed out, about an ounce of sulphate of magnesia in solution is injected through the "evacuatory incision." In cases which recover, this treatment brings about an early and copious evacuation of the bowels.

The following cases are given to illustrate the above remarks:

CASE I. Acute Peritonitis from Perforation of the Appendix: Appendicectomy: Enterotomy: Recovery.—Mr. B., aged 28, a patient of Dr. Robert Forrest, with whom I saw him in consultation, was recovering from his third attack of appendicitis. There existed some tenderness and fullness about the right iliac fossa, but beyond a slight sense of discomfort in this region, he had no other symptoms of moment although he remained in bed. On the fifth day after I saw him, there was a marked exacerbation of his symptoms, ending in the course of some hours in very evident indications of acute peritonitis. Operation was at once decided upon, and the following method adopted. A curvilinear incision was made in the right inguinal region. The cecum was found so adherent to the parietes that, on attempting to separate the parts, it was opened and fluid faeces escaped. The opening was clamped with forceps while the operation was proceeded with. There was much matting of the parts about the cecum, and some purulent fluid escaped from among the coils of intestine. The appendix was sought for and found among much matted tissue, which made its removal difficult. The abdomen was then opened in the middle line, and the intestines rapidly turned out into a hot-water tin. They were all much distended and injected, and coated with plaques of lymph. The upper coils were the most distended, and very livid in appearance. The pelvic and general peritoneal cavity was freely flushed with hot normal saline solution. The lower part of the ileum was then incised, and the contents of the bowel allowed to flow out. Gas and fluid escaped freely at first, but then ceased, so that it was necessary to squeeze out the contents of the distended coils by passing them between the finger and thumb. This was repeated about three times, commencing as high up as possible, and passing the whole way down to the opening. By this means the intestines were reduced to an almost collapsed condition, and after stitching up the opening were easily returned within the abdomen. A few plaques of fibrin were peeled off, but they were mostly too adherent to be detached. The clamped orifice in the cecum was stitched up, and both abdominal incisions completely closed. The operation lasted about two hours. He made an uninterrupted and complete recovery, and has since become a champion tennis player.

CASE II. Acute Intestinal Obstruction from Kinking of the Ileum due to Adhesions: Enterotomy: Laparotomy: Temporary Recovery.—D. McG., aged 72 years, was admitted to the Victoria Infirmary on January 6th, 1899. Nine days prior to admission he was seized with cramps in his abdomen, followed three days later by vomiting and hiccough. When seen on admission he complained greatly of pain in the umbilical region, and possessed features

peculiarly characteristic of a man suffering from acute abdominal disease. His pulse, however, was in every respect good, and his temperature normal. He had passed neither faeces nor flatus; and while his symptoms were typically those of obstruction, no indication could be got of its probable nature. With the assistance of Drs. Alexander MacLennan, James McHaffie, and John MacDonald, an exploratory incision was made in the right iliac region; distended small intestine presented, and the large bowel was discovered contracted. A median incision was then made, when distended coils of small bowel escaped. The presenting loop was drawn out and incised, when a quantity of fluid material escaped. This incised loop was taken charge of by an assistant, who gradually emptied more coils of the bowel. Meanwhile a search was made for the cause of the obstruction, and a loop of ileum was discovered bent, and closely bound down by dense adhesions to the posterior wall of the bladder. The depth and strength of these adhesions rendered it advisable to make a "lateral approximation" rather than spend time over an attempt to detach the bowel. This was accordingly done, a few inches above the "kink," by the aid of a Murphy button. Attention was now directed to the remainder of the distended gut, much faecal matter was squeezed out of the "evacuatory incision," but as such a great length of the intestine was involved another "evacuatory incision" was made higher up, and this part of the bowel emptied. After the completion of the operation, which had lasted an hour, the patient's abdomen was thoroughly washed out. He rallied well from the operation. On the evening of the following day a copious water enema was given, which caused a slight evacuation and the escape of flatus. His pulse was excellent and temperature normal; there was no vomiting, but he had occasional hiccough. On the subsequent days the bowels moved freely, and quantities of flatus were passed. His recovery seemed likely, but on the sixth day he began to show signs of failing, and died on the seventh day, apparently from causes dependent on his advanced age.

CASE III. Acute Diffuse Suppurative Peritonitis: Laparotomy: Enterotomy: Recovery (Abstract of report by Dr. C. Fleming).—Mrs. M., aged 31 years, was admitted to the Victoria Infirmary, on October 5th, 1897. She had given birth to a child six weeks previously, and had not since been free from abdominal discomfort. Twenty-five hours before admission she was seized with abdominal pain, accompanied by vomiting and purging. When first seen, shortly after admission, her face was pinched and anxious-looking, pulse small and rapid—150 per minute—temperature 103° F. The abdominal pain was very severe. The abdomen was distended and tympanitic, and tender on manipulation. The urine contained abundant albumen. Believing the case to be one of perforation, the patient was removed to the theatre, and an exploratory incision made above the umbilicus. On opening the peritoneal cavity turbid fluid immediately escaped containing flakes of lymph. It had no faecal odour. The incision was now carried downwards about 4 inches, and a large quantity of purulent fluid welled up and out from the pelvic cavity. A search was made for any possible perforation, but none was found. The small intestines were much distended and congested. An "evacuatory incision" was made into a loop, and a quantity of fecal matter was forcibly and continuously expelled without any digital manipulation. Before closing the "evacuatory incision" one ounce of magnesium sulphate in solution was injected into the bowel. The peritoneal cavity was freely flushed with hot normal saline solution, and after the insertion of a drainage tube into the pelvic cavity, the greater part of the abdominal incision was stitched up. Improvement in her condition was in no sense marked until early in the morning of the second day, when flatus was passed, and the bowels moved naturally. From that period onwards she made an almost uninterrupted recovery.

CASE IV. Acute Intestinal Obstruction from Volvulus (?) of the Small Intestine: Laparotomy: Enterotomy: Recovery. (Abstract of report taken by Dr. Charles Fleming).—Mrs. B., aged 38 years, was admitted to the Victoria Infirmary under the care of Mr. Maylard, on March 7th, 1898. She was suffering from symptoms of acute intestinal obstruction of two days' duration. Her symptoms commenced with violent pain in the epigastrium and left hypochondrium, accompanied by vomiting. The pain subsided, but vomiting continued. Her bowels had not moved since the onset of her illness. On admission the abdomen was found somewhat distended. Palpation did not cause pain, and revealed nothing. Her pulse was 100, fairly strong, and her temperature 100.4° F. The abdomen was opened by a median incision when some clear serous fluid escaped. The small intestines which presented were distended and injected. The coils were rapidly turned out into a hot tin and search made for the obstructing agent. Nothing, however, was found, and the appearance of the parts suggested the probability that there had been a twist of a long loop of the jejunum on its mesenteric axis. An "evacuatory incision" was then made into the lower part of the distended section, and as only a small quantity of gas and faeces escaped, the gut was passed through between the fingers and the thumb, and its contents squeezed out. The orifice was made use of for the injection of about 3 drachms of a watery solution of sulphate of magnesia. As the coils of intestine were returned into the abdominal cavity they were douched with hot normal saline solution. The operation lasted about three-quarters of an hour. The patient rallied well and made a rapid and uninterrupted recovery.

ON THE REMOVAL OF A NÆVOID TUMOUR OF THE INTESTINE.

By JAMES H. NICOLL, M.B.,

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THE following case of acute intestinal obstruction was successfully treated by the removal of a nœvoid tumour of the intestine, with a double intussusception, involving over 5 feet of the bowel:

History and Symptoms.—Miss A., aged 23, was seen, in consultation with Drs. MacLennan and Middleton, on the morning of September 28th, 1898. Her symptoms, which had set in suddenly twenty-four hours previously,

were acute abdominal pain, hiccough, eructations, persistent vomiting, and absolute constipation. A fortnight previously she had had a similar but slighter attack, and during the fortnight she had had pain in the epigastrium, coming on shortly after meals, and lasting for about an hour.

Physical Examination.—The patient appeared somewhat exhausted; her pulse was 90, and her temperature 100.6°. The abdomen was distended, the right side and lower part being tympanitic, and the left side dull, resistant, and tender. Dr. Middleton, who made a rectal examination, believed he detected free fluid in the pouch of Douglas.

Operation.—The abdomen having been opened in the middle line a quantity of clear brownish fluid escaped, and the intussusception (shown in the plates) was found. It formed a tense sausage-shaped mass, about 1 foot in length, and of a deep slate-blue colour. All attempts to reduce it proving futile, I punctured it, and evacuated several drachms of feculent mucus. Reduction being still impossible, I incised the outer tube, passed two fingers into the interior, and again attempted reduction; and again failed. I then incised the second tube, and from the aperture escaped coils of small intestine. (See Fig. 1.)

Next the entire intussusception was excised, and the divided intestine was united by Czerny-Lembert suture. The abdominal cavity was drained by gauze tampon for forty-eight hours.

After-History.—The patient was fed at first with teaspoonfuls of milk, but after two days the quantity was increased, and farinaceous food gradually added. She made an uninterrupted recovery, and was removed home three weeks after the operation, and is now, after six months, going about in perfect health.

Specimen.—The three accompanying illustrations show the

Fig. 1.—Diagrammatic representation of the tumour enclosed in a short intussusception which is in turn engulfed in a second intussusception containing many coils of intestine. 1-r, nœvoid tumour enclosed in short intussusception. 2-r, second intussusception containing the first and many coils of intestine. 3, mesenteric border of intestine. 4, free border of intestine.

Fig. 2.—External view of intussusception. x, white disc of paper placed on centre of tumour, which has been pulled from its previous site (see Fig. 1) out through the upper end of the sheath.

structures causing the obstruction and removed at the operation.¹

The tumour (as reported on by Dr. R. M. Buchanan, of the Glasgow and West of Scotland Clinical Research Laboratory) consists of "large thin-walled spaces filled with coagulated blood," and is typically nœvoid. It contains two small phleboliths, each of the size of a split pea. Its size is that of a pigeon's egg. One of its surfaces is covered with peritoneum, the other, the internal, with villous mucous membrane. The sheath or external tube of the intussusception measures 16 inches in length. The total length of bowel involved is over 5 feet.

Fig. 3.—Intussusception partially dissected. Protruding through the window which has been cut in the sheath are some of the coils of the redundant intussusceptum (see Fig. 1). x, the nœvoid tumour, which has been bisected. The phleboliths are not seen. Figs. 2 and 3 are photographs by Dr. Teacher, of the Hunterian Museum, Glasgow.

REMARKS.

1. It will be evident from the illustrations that the relations of the parts of the specimen cannot be reconciled with the views commonly held as to the production and increase in size of an intussusception, according to which the tumour ought to have occupied the lower end of the intussusception near 2'.

2. The impossibility of reduction was, as the illustrations demonstrate, due to the tumour acting like the cork of a bottle that has been accidentally pushed down through its narrow neck. It was only after the bulk of the tumour had been reduced by the hæmorrhage that it could be pulled out of the neck of the sheath.

3. There was nothing in the appearance of the intussusception to indicate that in the narrow neck of the sheath were crowded the numerous vessels belonging to 5 feet of mesentery; hence the first cut with the scissors in dividing it gave rise to somewhat smart bleeding; and the closely-arranged mesenteric vessels had to be picked up and secured *seriatim*.

4. Escape of the intestinal contents into the peritoneal cavity during the resection was prevented by Drs. Kay and MacLennan clamping the divided ends between finger and thumb.

While fully admitting the advantage in the gain of speed offered by the Murphy and other buttons, and recognising that in cases severely collapsed or in the hands of an inexperienced operator that advantage must outweigh the obvious disadvantages of the apparatus, I believe that in the majority of cases the slightly longer time necessary to unite the intestinal ends by simple suture will be well spent.

The methods I have made use of are the Czerny-Lembert, largely continuous, and a method which I described to the Glasgow Medico-Chirurgical Society in January, 1896. This method is, I believe peculiarly suited to cases presenting much congestive thickening of the intestinal coats with large

accumulations of intestinal contents above the lesion. A ring of mucous membrane is removed from the distal end, into which the proximal (with or without removal or roughening of its peritoneal coat) is passed, and there secured by suture, either looped or continuous, the whole procedure being accomplished without the aid of any mechanical support.

The principle of the method would seem to be good, for it appears to have suggested itself to at least four independent workers, who have carried it out with variations in details. Robinson of Toledo (by means of a rubber bobbin, experimentally, in the dog), published in the *Annals of Surgery*, 1891; Harris, of Chicago (making temporary use of needles for fixation until the suturing is completed), published in the *Chicago Medical Recorder*, 1892; myself, *Glasgow Medical Journal* and *Transactions of Glasgow Medico-Chirurgical Society*, 1896; and Skelly, of Pekin, U.S.A., *Annals of Surgery*, 1898; Skelly and myself making use of no mechanical aid whatever in addition to the sutures.

In cases other than those I have indicated I believe it is in no sense superior to, and in some respects not so good as, the continuous Czerny-Lembert suture which I employed in the case here detailed.

NOTE.

¹ The specimens were shown at a meeting of the Glasgow Medico-Chirurgical Society.

A METHOD FOR THE REDUCTION OF DISLOCATIONS OF THE HIP.

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HAVING experienced considerable difficulty in reducing the first case of dislocation of the hip-joint with which I had to deal, it occurred to me that reduction might more easily be effected if one could accurately control the movements of the head of the femur, and at the same time employ traction on the femur.

The following method fulfils those conditions, and having proved it successful in two cases, I venture to make a note of it, more especially for the benefit of country practitioners like myself, whose experience of dislocations of the hip must necessarily be limited, and who not infrequently lack any—much less skilled—assistance.

The patient being laid upon his back on the floor, is put under the influence of an anæsthetic. The surgeon, as shown in the illustrations, kneels upon his left knee when

Fig. 1.—Adduction and rotation in.

the left hip is dislocated, and on the left side of the patient. The patient's thigh is then carefully flexed to a right angle, and while this is being done the leg is also flexed to a right angle, and laid with the most prominent part of the calf on the right knee of the surgeon. The ankle is then firmly

grasped with the left hand, and the condyles of the femur with the right. The thigh is then abducted for thyroid dislocations, adducted for dorsal and public, and rotated in for all, by drawing the foot away from the middle line and keeping the knee steady. Traction is now made by steadily depressing the ankle, the surgeon using his knee as the fulcrum; the patient's leg makes a most powerful lever, and the pelvis can be easily raised off the ground if necessary, the weight of the body acting as counter-traction; then finally the thigh is rotated out, and while this is being done the head of the femur slips into the acetabulum.

Fig. 2.—Traction.

Fig. 3.—Rotation out.

I reduced my first case by this method more than two years ago, the patient being a man aged 62, and the dislocation on being a dorsal one. The operation lasted only a few seconds, and the patient regained perfect use of the limb very rapidly.

The second case I reduced some weeks ago at the request of a colleague who had unsuccessfully attempted to reduce the dislocation; the dislocation was a thyroid one when I saw it, and I succeeded in reducing it even more rapidly than my first case.

I have no doubt that those rare dislocations in which the ilio-femoral ligament is ruptured might be reduced by this method, but of these dislocations I have no practical experience.

I do not claim any originality for this method; it is merely the old method slightly altered.