the levatores ani muscles, in order to bring these muscles and the posterior vaginal wall into close apposition (Fig. 3). The skin edges are next united with interrupted catgut sutures and the silkworm-gut sutures tied through small pieces of india-rubber tubing, thus completing the operation (Fig. 4). The last or most posterior silkworm-gut suture is passed so as to prevent the anal orifice falling backwards, which is not infrequent after operations for complete rupture of the perineum. Catgut may also be employed for this suture.

A "sacral anus" is a complication which should not be encountered where the necessary precautions have been taken during the operation to restore the anal canal. After this operation I believe it is best to refrain from administering purgatives at least for some days in order that healing may remain undisturbed. Should the patient be uncomfortable in consequence of the bowel not acting, warm olive oil should be run into the rectum through a small india-rubber tube, and a dose of castor oil given by the mouth. The bowels should afterwards be kept acting by a gentle laxative.

The result of the operation described was completely satisfactory, the wounds healed well, and there was complete sphincteric control. The patient has been enabled to be about and lead an active life, whereas formerly she was more or less of an invalid, spending most of her time either in bed or on a couch, and being forced to give up her business in consequence of her physical suffering.

When writing this paper I received unexpectedly a letter from this patient, in which she states:

"I am writing to tell you the operation has proved a perfect success. It was some time before the bowels acted naturally, but now I am like another woman. I was a long time making up my mind to the operation, but I am glad I did, and I am very grateful to you for your care and skill. I only wish other sufferers knew the benefit."

Although this type of operation remedies the anatomical defects which seem to accompany this variety of prolapse, yet congenital predisposition is an etiological factor which cannot be overlooked, for these two women were sisters, and I am informed that another sister and two cousins suffer from rectal prolapse. Exercises to cause contraction of the levatores ani muscles and sphincter ani should be practised after this operation, and such exercises are still more necessary in the presence of congenital muscular weakness. Finally, this operation offers a prospect of cure, not merely to the surgical derelicts cast adrift because of the failure of other methods, but to those who bear their suffering not knowing that anything can be done for their relief, as well as to those who from knowledge of failures have lost faith in modern surgery.

SPIRIT AND BIPP TREATMENT.

BY

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PROFESSOR RUTHERFORD MORISON's bipp treatment is not, I think, always clearly understood, and if employed haphazardly and without attention to detail may be disappointing. The following case, which recalls that of Dr. Monica Bell and Professor Morison (December 10th, 1927, p. 1077), shows a remarkable result obtained by the use of this procedure.

On December 7th, 1927, a feeble old lady of 77 was knocked down by a motor lorry and sustained a severe compound comminuted fracture of the lower end of the right tibia and fibula, involving the ankle-joint. She was brought into the Barry Surgical Hospital suffering from shock and haemorrhage. Although a rough tourniquet had been tied round the leg the wound was still bleeding, and there was evidence from the saturation of her clothes that the haemorrhage had been profuse. A large dose of morphine and atropine was administered, and a more efficient tourniquet applied. At the end of about one hour she was sufficiently recovered from the initial shock to justify operation.

Under gas and oxygen the wound was freely opened up and the bleeding points secured. The bone was found to be badly comminuted, and many completely detached loose pieces were removed; other fragments showing a reasonable attachment to the periosteum were left. Attention was now directed to the rest of the wound. The skin edges were excised, and badly lacerated portions of muscle and fascia were removed. Fortunately it was possible to save the anterior tibial nerve; this had been completely

stripped by the violence of the injury, but remained in continuity. The wound was now freely swabbed out with methylated spirit, after which it was carefully dried, one or two additional bleeding points being secured at the same time. (There is always a fair amount of bleeding after the application of spirit.) The wound was temporarily packed with dry gauze during the changing of the gloves and towels. On resuming, a small quantity of bipp was introduced into the cavity, and thoroughly rubbed into every available nook and cranny. Lengths of thick linen thread were carefully bipped, and by their means the skin edges were roughly approximated; owing to the loss of tissue accurate apposition without tension was not possible or desirable. The dressing consisted of long pads of gauze freely soaked in spirit, each pad being liberally sprinkled with boric powder. The pads were laid along the wound and did not encircle the limb. A top dressing of wool was temporarily held in position by a bandage.

The plasters were applied as follows. The first plaster extended from above the wound to above the knee—the knee being slightly flexed during the application. The plaster was reinforced with thin laths of wood. The second plaster encircled the foot below the wound. Traction was now made on the foot by means of a weight and pulley, and when alignment of the foot was perfect the intervening space was rapidly filled in with the third plaster. Before the plasters were firmly set a large window was cut out over the wound, and the whole case was divided longitudinally from top to bottom. This division was continued through the wool and bandages until the skin was exposed. This step was an important one in view of the possibility of subsequent swelling, and the very real danger of gangrene in a patient of this age.

The patient stood the operation well, and returned to bed in a fair condition. Before leaving the theatre 500 units of antitetanic serum were injected. I would now also employ anti-gas gangrene serum, but I did not have a stock in readiness at the time.

Prognosis.—The prognosis given to the relations was a bad one. Apart from the immediate dangers of shock and haemorrhage, there remained the possibility of gangrene, and later of severe sepsis with osteomyelitis. At best only healing by granulation could be hoped for, and a very poor functional result.

Progress.—The old lady remained very feeble and debilitated, but no special pain was felt in the foot, and the temperature caused no alarm. There was some trouble with the bladder and bowels. On the seventh day—more from curiosity than necessity—I removed the dressing. The wound was quite dry. The skin was healthy right up to the cut edges, between which lay a hard dry mass of coagulated blood. I took out the stitches and dressed the wound with spirit gauze and powder. A week later a similar dressing was applied. From start to finish not a bead of pus or even serous oozing occurred. At the end of a month the splint was removed daily for massage, and a fortnight later discarded altogether. At the present time she can bend her knee to a right angle, and can voluntarily move the foot through 30 degrees. The wound is healed and the fracture firmly united.

Comments.

The technique used in this case was almost identical with that instituted by Professor Morison at the Northumberland War Hospital. Points to notice are:

1. The full excision of the wound.
2. The liberal use of spirit.
3. The small quantity of bipp required. This must be well rubbed into the exposed surfaces and no excess left.
4. The use of bipped sutures; this prevents infection of the needle holes and the spread of sepsis from the skin to the deeper structures.
5. The dressing with spirit and boric powder.
6. The absence of any encircling bands round the limb.
7. The infrequent dressing of the wound.

The last requires courage, but is most essential if secondary infections are to be avoided.

AN ATYPICAL CASE OF HYPERGLYCAEMIA IN GENERAL ANAESTHESIA.*

BY

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THE unusual extent of the increase in the blood sugar during general anaesthesia in the following case, combined with the absence of glycosuria or of any untoward symptoms, make it worthy of record.

A woman, aged 50 years, was the subject of a major operation on account of gastric ulcer, hour-glass stomach, and chronic appendicitis. She was prepared for operation in the normal manner, having no food on the morning of operation, and receiving 1/4 grain morphine and 1/100 grain atropine about an hour previous to the administration of the anaesthetic.

* This case is one of a series in a research towards the expenses of which a grant has been made by the British Medical Association.