POPLITEAL ANEURYSM IN A GIRL: MATAS'S RESTORATIVE OPERATION.

By J. LEEPER DUNLOP, B.A., M.B., B.Ch.R.U.I.,

ARMAGH.

THE case is interesting on account of the rarity of pathological aneurysm in children:

C. B., a girl aged 12½, whose father, mother, two brothers, and a sister were all healthy and robust, had always been considered delicate, though she had had no serious illness. She did not begin to walk till she was 3½ years old. She was about 5 ft. 8 in. in height and very slender; she had recently menstruated for the first time rather profusely. There was no history of bleeding or of being easily bruised, but any cuts or abrasions had always been very slow in healing.

On July 17th, whilst standing in the yard, she felt a sudden sharp pain in the back of her knee. She had not been making any exertion, was in her normal health, and had been at school the day before. The pain was so bad that she could not move. She was carried into the house, when it was found that the knee was much swollen.

When I saw her next day the knee was semiflexed and rigid, the slightest attempt at movement giving extreme pain. The outline of the knee seemed normal from the front, but the popliteal space was filled with a hard tender mass, non-fluctuating and non-pulsating. Around the margin was some slight ecchymosis. The foot was cold but not blue, and there was slight oedema round the ankle. Pulsation could be faintly made out in the posterior tibial artery. Pressure on the femoral artery did not relieve the pain or reduce the size of the swelling. Pulse, heart, and temperature were normal, and the other arteries showed no evidence of disease. As there was evidently a rupture of the popliteal artery, I advised the leg to be well elevated, evaporating lotions to be applied, and prescribed calcium lactate gr. xx to be taken night and morning for four days.

In a few days the swelling was a good deal diminished, and the pain almost gone except on deep pressure. The knee could be fully flexed without pain, but could not be extended beyond a right angle.

On August 30th slight pulsation could be felt in the popliteal space, which was still filled up by a hard mass, and a very loud systolic bruit could be heard over the whole length of the space. On September 9th there was visible pulsation, definitely expansile, and accompanied by a very distinct thrill. Pressure on the femoral artery stopped the pulsation, and when it was relaxed the swelling could be seen to fill up and pulsate. There was practically no pain unless an attempt were made to extend the leg forcibly. Continuous digital compression of the femoral artery for twenty-four hours was tried, but it had no effect on the aneurysm, which seemed to increase in size daily.

Operation.

On September 23rd anaesthesia was induced by open ether, and the limb was exsanguinated by elevation, an elastic bandage, and a tourniquet half way up the thigh. A median posterior incision was made in the popliteal space, the external saphenous vein and nerve well drawn to the outer side, and the popliteal artery exposed. The popliteal vein was stretched out and very adherent to the back of the sac; it was extremely friable, and unfortunately tore, but I was able to suture it with fine silk. The sac was then opened along its whole length without making any attempt to free it from the surrounding tissues. It was about the size of a small hen's egg; the walls were about ¼ in. thick, with a well-marked endothelial lining. It contained a very small quantity of soft dark clot. The blood clot was removed, the cavity washed out, dried, and smeared with vaseline. At the inner side there was a slit-like opening about ¼ in. long, which communicated with the main artery. The opening into the artery was closed with a continuous suture of fine silk on the smallest curved intestinal needle, both being well smeared with vaseline as recommended by Carrel.

The sac was then sewn up with 0000 chromic catgut in three tiers of continuous sutures, completely obliterating the cavity, and one silkworm gut suture passed through the skin and sac walls and tied on the outside.

The tourniquet was then loosened. There was no haemorrhage except from some small veins, which was easily stopped. The artery could be seen pulsating.

The skin was united with horse-hair covered with collodion gauze, and a poroplastic splint was applied; the patient was returned to bed, and the limb was raised on three pillows. The foot and leg were warm and a good colour.

After-History.

Recovery was uneventful. There was no pain or discomfort beyond some tingling in the little toe due to irritation of the external popliteal nerve, and this disappeared in a few days. Stitches were removed on the tenth day when the wound was perfectly healed. The knee could then be fully extended without pain. No pulsation could be felt in the popliteal space. She was kept in bed for three weeks, during the last of which gentle passive movements were commenced.

According to Matas,¹ popliteal aneurysm is very rare under 15 years. Syme records a popliteal aneurysm in

a boy of 7, and Hodgson a carotid aneurysm in a girl of 8. Poynton² states that aneurysm in childhood, apart from those due to malignant endocarditis, is a very rare event. In this case there was no evidence of cardiac disease, no syphilitic taint, and no other evidence of arterial disease except the general fragility of the system, or, as Osler says, "in the make-up of the machine, bad material was used for the tubing." The case also shows the short time required to form a definite sac lined with a well-formed coat of endothelium, and the very little effect that the twenty-four hours' compression had on the formation of clot in the sac.

REFERENCES.

¹ Matas, *Keen's Surgery*. ² Poynton, *Diseases of Children*; Garrod, Batten, and Thursfield.

"HERNIE PAR GLISSEMENT."

By

H. R. UNWIN, M.B., F.R.C.S.,

YEovil.

"Hernie par glissement," or sliding hernia, is a hernia of large bowel in which, as its name implies, the bowel slides down into the inguinal canal, taking its mooring—the mesenteric attachment—with it. The hernia usually forms a large swelling, as the parts have undergone considerable inflammatory hypertrophy, but it is with difficulty diagnosed before operation; small intestine is nearly always present as well in the sac. It is of fairly common occurrence, having been met with twice amongst the last 67 cases of inguinal hernia in my practice. In one of these the hernia occurred on the right side, when the caecum, appendix, about one foot of colon, and three feet of small intestine were found in the sac; the other occurred on the left side, where the descending colon and part of the pelvic colon were the portions of gut involved.

The *hernie par glissement* may descend into a peritoneal pouch already present in the inguinal canal, as was the condition found in the first case. Here there was a patent funicular process, and into this the caecum, appendix and colon had slid, together with small intestine, so that when the bowel was returned to the abdominal cavity there was still the funicular process to deal with. But in the second case the ilio-pelvic colon had apparently slid down into the left inguinal canal, making its sac as it went; when the bowel was returned to the abdominal cavity the sac was obliterated and a hole in the anterior parietal peritoneum remained, which was the original incision made in opening the sac. The condition is recognized at operation by finding large bowel attached to the back of the sac by its mesentery.

The importance of these cases lies in the method of radical cure adopted. In the first case I was content with returning the bowel into the abdominal cavity, closing the opening in the peritoneum, and carefully suturing the internal oblique muscle and conjoined tendon to Poupart's ligament, as in an ordinary radical cure. Within a few months the patient returned with the hernia as bad as ever, and this one could not be surprised at, considering the lax condition of the musculature of the inguinal canal—as is the case in all large herniae—and the mobile state of the large bowel, which would be likely to extrude itself again through any weak spot in the abdominal wall. In order, therefore, to attain a satisfactory radical cure these two conditions—that is, laxity of abdominal wall and mobility of colon—have to be remedied.

The abdominal wall is best strengthened by incorporating a wire filigree between the internal oblique muscle and external oblique aponeurosis above the inguinal canal and another behind the cord and in front of the internal oblique and conjoined tendon sutured to Poupart's ligament in the length of the canal.

The mobility of the colon is remedied by suturing the lowest part of the mobilized bowel—that is to say, the caecum on the right side and the ilio-pelvic colon on the left to the peritoneum lining the iliac fossa and to the fascia and muscle lying under it. This is done through a separate rectus incision, so as not further to weaken the abdominal wall by dividing the internal oblique muscle across its fibres.

The results of this line of treatment in these two isolated cases have been excellent.