

ART. XIII.—*Case of Inguinal and Popliteal Aneurism, cured by tying the external Iliac Artery.* By ALEXANDER EWING, M. D. Surgeon to the Royal Infirmary, and Lecturer on Surgery to the Universities of Aberdeen.

ROBERT PETRIE, 37 years of age, of a sallow complexion and general unhealthy appearance, was admitted into the Aberdeen Infirmary, on the 22d December 1830, with aneurism of the popliteal artery of the right side, which he said had been of several weeks duration. He had been a sailor since he was 15 years of age, and for 10 years had made voyages to the West Indies, where he had several very bad fevers, and narrowly escaped with his life. By the account of his friends he had also been much addicted to drinking spirits.

The tumour in the ham was large, and from the swelling of the integuments, appeared diffused, filling the space between the hamstring muscles, and extending upwards on the inside of the thigh, to near where the femoral artery pierces the triceps. The leg was swollen and a little red, particularly about the upper part. He complained of excruciating pain about the knee and down the outside of the leg, which prevented him from sleeping, particularly during the eight days previous to admission. He said the tumour was of seven weeks duration, and that he knew no cause for it, except that a week before observing it, he fell into the fore-castle of a vessel, a height of about five feet, and at this time he felt a sharp pain in the ham.

When he first discovered the tumour it was about the size of a nut, and for a considerable time it pulsated more strongly than when he came to the Hospital. Pulse about 80; tongue a little furred; appetite impaired; bowels slow. On examining the thigh more particularly after admission, with a view to tying the femoral artery, another tumour was discovered in the situation of that vessel, just after emerging under Poupart's ligament. This was of the size of a walnut, and had not been noticed by the patient for more than a fortnight. By grasping it with the finger and thumb placed on opposite sides, it was felt to be strongly distended at each pulsation of the artery; and, by pressure on the external iliac above the crural arch, the pulsation ceased, and the tumour almost disappeared.

It appeared, therefore, that the patient had two aneurisms,—an inguinal and popliteal on the same side. As this seemed to indicate some predisposition in the vascular system, I examined the abdomen, chest, and pulse, in order to ascertain if there was any internal aneurism; but nothing of this kind could

be detected. He informed me, however, that he had a rupture on the same side when young, and that it was cured by a bandage.

During the time he was in the Hospital previous to the operation, he only got opiates to allay pain and procure sleep, and occasional laxatives.

On consulting about the case it was agreed that the only chance which the man had was by tying the external iliac; although from his bad constitution, deteriorated by warm climates, former diseases, and intemperate habits, and the probable diseased state of the arteries, an operation did not hold out much prospect of success.

As my friend Mr Liston of Edinburgh happened to pass through the town at the time, he had the kindness to examine the case, and concurred in the opinion that the external iliac should be tied. I accordingly performed the operation on that day, (3d January 1831,) with the assistance of Mr Liston and my colleagues. The first incision commenced as high as the anterior and superior spinous process of the ilium, but an inch nearer the *linea alba*. This was carried down in a somewhat semi-lunar direction, and terminated a little above the external aperture of the inguinal canal. The tendon of the external oblique muscle was then divided on a director to the same extent, bringing into view the internal oblique. The struggles of the patient were very violent after this, and by forcing down the abdominal viscera, made it necessary to proceed with great caution. The next steps of the operation consisted in pinching up the muscular fibres of the internal-oblique with a dissecting forceps, and carefully dividing them in the direction of the external wound, and in the same way, some of the fibres of the transversalis. The *fascia transversalis* being then exposed, a few fibres of it were carefully scratched through with the knife, on the iliac side of the exit of the chord through the internal aperture of the inguinal canal. The peritonæum was then pushed upwards and inwards, bringing into view the external iliac, about an inch and a half above Poupart's ligament. The cellular tissue surrounding the artery and vein was next scratched through by a few touches of the knife on the upper surface of the artery, and a single ligature was then passed under it from within outwards, by the common aneurism-needle. A firm double knot was tied, and both ends of the ligature were left uncut and hanging from the wound. The pulsation in both aneurisms immediately ceased. It may be observed that no part of the artery was separated from its connexions, except in the tract of the needle. The operation was concluded by bringing the edges of the incision together by three stitches, some

strips of adhesive plaster, a light compress, and putting a broad flannel roller round the loins and upper part of the thigh.

For an hour after the operation, the leg was quite cold and extremely painful. During this time external warmth was applied; but in the course of the evening the temperature rose about 2° higher than that of the opposite limb, and the pain at the same time diminished.

For the first two days he was troubled with sickness and vomiting, and slept little, but the pulse continued about 80. During this time he got castor oil to open his bowels, and saline effervescing draughts, with small doses of opium. His bowels were freely opened on the first day after the operation, but the sickness and retching continued. He was then allowed soda water to drink, which had the effect of settling his stomach. In a few days some inflammation appeared about the wound, and the stitches were cut out. This was followed by suppuration, but adhesion soon took place, except at a small spot round the ligature. No pulsation ever returned in the popliteal aneurism after the operation; but there was a slight pulsation in the one at the groin, which at the same time felt solid, as if filled with a coagulum. About a fortnight after the operation, this patient was accidentally exposed to the contagion of small-pox, by a boy who took it after coming to the Hospital. As Petrie had never been vaccinated, he was immediately ordered to be inoculated, and he went through the regular stages of cow-pox without any apparent bad effect on the wound or otherwise.

It is unnecessary to give details of the farther progress of the case, except to state that the patient's health continued good, and the aneurismal tumour in the ham gradually diminished. The wound healed up rapidly, but the ligature did not come away till the 7th March, probably in part from my unwillingness to use any force to pull it away, while the granulations firmly embraced it.

The patient, after sitting up for some time in the Hospital, walked home perfectly cured; and I saw him some days ago in good health.

Aberdeen, 12th June 1831.