ACCOUNT OF
THE DISSECTION OF A CASE
IN WHICH
TWO POPLITEAL ANEURISMS
HAD BEEN TREATED BY
COMPRESSION OF THE FEMORAL ARTERIES.
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F. V—, æt. 38, was admitted into St. George's Hospital, under the care of Mr. Cutler, on the 7th of June, 1848, with a tumour in each popliteal space: that on the right side was very large, and completely filled this region; it presented pulsation, expansion, and the bruit usually observed about aneurisms; but the sac, although compressible, could not be emptied. Below the tumour, the limb was slightly œdematous; but the skin, somewhat tense and shining, was natural in colour; handling gave little or no pain. The disease had, it appeared, existed about three months, and when first observed, the swelling was not larger than a plum. No treatment whatsoever had been adopted for it.

The tumour in the left ham was very much smaller, not exceeding the size of a small egg; it was hard, and to a great degree, apparently solid, but pulsation was evident in it, although much less marked than on the right side. The following was the only history which could be obtained from the patient, a foreigner, as to the disease on the left side.

The tumour had first been noticed about eighteen months back, its appearance being speedily followed by great swelling of the limb, which increased to about twice its natural size. Shortly afterwards he went into the Wexford Infirmary, where, by means of an instrument, compression was established on the femoral artery, and kept up, more or less, for seventeen weeks; under this treatment, the limb gradually regained its natural dimensions, and the tumour was reduced to its present size. He then left the infirmary; but the state of his general health was such that he had not been able to undertake any work in his trade, which was that of a musical instrument maker. The tumour in the left ham had presented little or no variation, and had caused him but slight inconvenience. His health had begun to give way about two years and a half ago; he was pallid, and his whole aspect was that of a man suffering from great debility.

At a consultation of the surgeons, it was determined, under existing circumstances, that compression should be applied first upon the right femoral artery, by means of a ring tourniquet, which was so adapted as only to lessen the circulation. In some little time, all œdema of the limb disappeared, and the tumour itself became less in size and firmer, but pulsation still remained evident in it. Some six weeks after the patient's admission into the hospital, and whilst under treatment, he began to complain of cough and expectoration, with some difficulty of breathing. Nothing abnormal was detected about the heart by auscultation, but the lungs were found to be engorged at the back part. He at first appeared to derive some little benefit from the treatment which was adopted, but subsequently the difficulty of breathing and the cough increased much in severity; these symptoms went on without mitigation for about a fortnight, when he one day suddenly brought up a large quantity of arterial looking blood, and died soon afterwards.

At an examination of the tumour made some short time before the patient's death, it was found that there was still some pulsation left, but that the mass had become much firmer and more solid; the ring tourniquet had, it appeared,

for the greater part of the time, only been worn during a few hours daily. No change whatsoever had occurred on the left side.

For the notes of the history of this case, I am indebted to Mr. Richard Blagden, Surgical Registrar to the Hospital.

The body was examined thirty-one hours after death.

On the left side, the aneurismal tumour, deeply imbedded in the popliteal space, was lying between the joint and the artery. Pyriform in shape, with the base downwards, it was about the size of an egg, and appeared to be perfectly solid, but on cutting into it, the lower half only of the sac was found filled with closely packed laminated coagula, very firm, and of a fawn colour; the remaining part of the sac containing only a small quantity of recently coagulated blood, was lined by a perfectly smooth membrane continuous with the internal coat of the artery and of the same colour, except in that part which was stained by the contact of the recent clots. The opening from the sac into the upper part of the artery was a free one, nearly as large as the vessel itself; that leading into the lower part of the artery was a small one, only admitting a common-sized probe; this part of the artery which had been carried backwards and pressed upon by the development of the sac, was itself much reduced in size, but still pervious; its coats were for the greater part healthy, and so were those of the anterior and posterior tibial arteries, which were of their normal size. Immediately above the aneurism, the coats of the artery were extensively thickened by atheromatous deposits, and this diseased appearance, more or less marked, existed also in the lower part of the femoral. In this diseased part of the artery, there were three distinct aneurismal dilatations, about the size of filberts, two in the femoral vessel, and one in the popliteal, half an inch above the larger aneurism. The femoral artery was pervious in its whole length, and at its upper part quite healthy in structure; the femoral vein was also pervious and healthy, and presented no morbid adhesions to the artery; the sheath of the vessels and the surrounding cellular tissue

in the thigh were not thickened. The popliteal vein and nerve were firmly adherent to the aneurismal sac, and so too were some fibres of the gastrocnemius muscle; the nerve was flattened with its fibrils spread over the outer and back part of the tumour. On the right side, the aneurism, somewhat larger than a cricket-ball, was also lying between the artery and the knee, the vessel running down the centre of the posterior surface of the tumour, which was closely united to the joint. The whole of the sac was completely filled with laminated coagula, except at the back part, where there was a small channel, by which the blood might pass from the upper to the lower part of the vessel; the surface of this channel was rough, and recently coagulated fibrin was deposited in it; the opening of this channel into the upper part of the artery was a free one, and lined by a smooth membrane; at the lower part the communication of the channel and the artery was much contracted, this part of the vessel itself being much diminished in size, in fact not larger than the posterior tibial. Above the aneurism, the coats of the vessel were thickened by atheromatous deposits, and here, too, about an inch and a half higher up, there was another aneurismal dilatation as large as a nut. Patches of atheroma existed also in different parts of the femoral, but this vessel was otherwise healthy and pervious in its whole length. The femoral vein was also healthy and pervious, and not more adherent, in any part of its course to the artery, than natural; the surrounding cellular tissue was healthy. The popliteal vein and nerve here presented the same appearances as those observed on the left side, being displaced and adherent to the back part of the sac, which, towards its outer side, was covered with the expanded fibrils of the nerve. Some of the muscular fibres of the gastrocnemius were so adherent to the sac, that they could not be removed without destroying its walls.

In the chest, some old adhesions were found in the pericardium, but the heart and its vessels presented nothing remarkable. The aorta was extensively affected with atheroma throughout a great part of its course; and so,

too, were the three large vessels arising from its arch, which generally was somewhat dilated. Three distinct aneurisms existed in this part of the vessel; the smallest, of the size of a cob-nut, was situated at the point of origin of the brachio-cephalic artery, involving a part of this vessel; no coagula were found in it. The second, as large as a walnut, and situated on the concave portion of the arch, nearly corresponding to the first one, passed forwards, partly overlapping the pulmonary artery and adhering to it; its opening, of the size of the little finger, was perfectly smooth, as if lined by the internal coat of the artery, and its cavity was partially filled with coagula. The third, and largest of the three, which was situated at the back part of the artery, immediately behind the origin of the large vessels, had made its way upwards between them and the windpipe, to which it was firmly and extensively adherent; its opening was a free one, and its cavity partially filled up by coagula of some standing; at the back part of the sac there was a small ulcerated opening leading into the windpipe, about an inch above its bifurcation, through which the fatal hæmorrhage had taken place. In the air-tubes were found clots of recently coagulated blood; in addition to which the lungs themselves presented several well-marked patches of pulmonary apoplexy; both these organs were extensively affected with emphysema.

In the abdomen all the organs were healthy, excepting the kidneys, which were somewhat smaller than natural, and rough on their surfaces, with several small cysts in their structure.