**Case of a ruptured external iliac aneurism treated by ligature of the common iliac artery / by A.M. Edwards.**

# CASE

OF

# A RUPTURED EXTERNAL ILIAC ANEURISM,

## TREATED BY LIGATURE OF THE COMMON ILIAC ARTERY.

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On June 19th, I was brought by Dr Brodie of Gayfield Square to see Donald M'Donald, a discharged soldier, æt. 27, of sanguine temperament, muscular and well-formed. He had been discharged on account of deafness, from a Highland regiment, in which he had served during the Crimean campaign, and in which he had twice attained the rank of sergeant, and been as often reduced to the ranks for drunkenness. Three months ago he remarked a tumour the size of an apple, pulsating in his right hypogastrium; and within the last few days has been troubled with pain and swelling of the right foot and leg, which he thought was brought on by the long distances his scanty supply of money obliged him to travel on foot. On the morning of June 18th, the pain in his groin was more severe, and he was bathing the part with cold water, when he suddenly felt something give way in his abdomen, and the pain greatly increased, while at the same time, there was a sensation of warm fluid flowing towards the seat of pain. Dr Brodie was quickly on the spot, and found him with a cold surface and a scarcely perceptible pulse, very faint, and apparently dying from internal hæmorrhage. He rallied, however, and with the view of lessening the arterial impulse, and the likelihood of a recurrence of the bleeding, Dr Brodie prescribed tincture of aconite, perfect rest and quiet, with abstinence from stimulants and animal food. There was now a distinct tumour, extending upwards from Poupart's ligament towards the level of the umbilicus, with no defined limits, but distinct pulsation. The patient complained of intense pain and tension of the abdomen. He lay quiet for several hours, when he suddenly expressed a wish to micturate, and when attempting to do so, fainted. He again rallied, and the remedies were continued.

History.

I saw him about noon the following day, with Dr Brodie, who I found was of opinion that the tumour was an iliac aneurism, and that Drs Coldstream and Littlejohn were also of this opinion; but as none of those gentlemen had seen the tumour before its outline became diffused, they could not determine as to its exact situation. As it was clear, however, that, wherever the aneurism might be, it had burst, and the man was likely to bleed to death, I informed Dr Brodie, that, with his concurrence, and if urgent symptoms again set in, I should have no hesitation in putting a ligature round the common trunk, as that, though a desperate remedy, alone gave the poor fellow a chance of life. He was in great

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agony, begged that a cut might be made to relieve the tension, and even volunteered to do it himself if we had any hesitation. But towards the afternoon the pain abated, and he dosed a good deal, so we contented ourselves with the aconite and rest. When, at 9 P.M. he again complained of severe pain, and the tumour considerably increased in size.

At 8 A.M. the following morning we found him evidently much weaker, with a small frequent pulse, and complaining of great pain. The tumour now extended from Poupart's ligament below to the last rib above, then crossed upwards and inwards to the umbilicus, curving to the left of the middle line down again to the pubes. The skin covering the tumour was red and tender, and the abdomen distended with flatus. Dr Brodie administered chloroform to the patient, and we then lifted him from his bed to a table placed in front of the window, his head and shoulders raised on pillows, and his legs hanging over the end of the table. Dr Brodie kept up the anæthesia, and Mr Lizars, Mr Mackinnon, and Mr Nunn, were good enough to assist me.

**Operation.**

I began by making an incision, which curved forwards from above Poupart's ligament a couple of inches internal to the anterior superior iliac spine, as far as the last rib dividing the external oblique. The internal oblique now appeared bruised, and, as it were, injected with blood, which gave it the appearance of unusual thickness, so that I almost doubted at one time whether I was not dividing transversalis with it; but a branch of deep circumflex, and the ilio hypogastric nerve, the white line of which contrasted well with the purple colour of the muscle, showed me where I really was. So I tied the arterial twigs, as it was necessary to economise blood, and divided transveralis fascia. The peritoneum now appeared, covered with purple stains, as the surface of the bowel sometimes is in a hernial sac. It was but slightly adherent to the tumour, and I commenced peeling it off, Mr Nunn, with his fingers in the wound, endeavouring to support it with the intestines, and so give me more room to manipulate. I greatly prefer the fingers to any description of spatula, for such a purpose. It was impossible to determine the limits of the tumour, which evidently occupied the whole right iliac fossa, and extended more to the left than I imagined, from external examination. It was clear that I must get at the artery through this superincumbent mass, or not at all. So I passed my finger through the thin covering of cellular tissue, and found the mass consisted of recent clots, the escape of which I endeavoured to restrain with the right hand, while I tried to "touch bottom" with the forefinger of the left, but every now and then a clot would slip past my finger, followed by a little blood. I took the umbilicus as my guide, but for some time could feel nothing but clots wherever my finger passed up or down, or to one side. But I knew I could trust its familiarity with the parts, and that the least touch of any fixed point would at once guide it to the vessel. At last it touched what I took to be the fourth lumber vertebra, and in another instant it was resting on the common iliac artery. Being now in a position to control the bleeding, I turned out the clots with my right hand, and got the right forefinger also to the artery, the sheath of which I picked with my nail, and cleared it for about the breadth of my finger-tip. There was a good deal of difficulty in passing a ligature round it, as the intestines being distended, so forced the peritoneum into the wound in spite of Mr Nunn's efforts to restrain it, and got over the handle of the aneurism needle so as to prevent my elevating it. I managed at last to get a silk thread round the artery, tied it, and then holding the ligature in one hand, and lifting the peritoneum with the other, I could see for the first time, and show to those present the common iliac trunk pulsating violently. It was uncovered for about ¼ of an inch, and looked white and healthy. The vein I did not see, the ureter was adhering to the peritoneum.

The wound was stitched up, and dressed with wet lint, and the patient laid upon his back in bed. The operation lasted about half-an-hour. The leg was wrapped in cotton wool. Shortly after his return to bed, the pulse rose to 100.

**Subsequent Progress.**

At 2 P.M. he was easier than he had felt for some time, had no pain, right leg colder than the left. A tumour still remains above the right Poupart's ligament, about the size of an orange, but there is no pulsation.

21*st June*.—Continued comfortable till 2 P.M., when he complained of tenderness of the belly, and there is tympanitis, with rapid pulse.

℞. Calomel . . . . gr. ij.
P. Opii . . . . gr. ½.

to be taken every two hours. Under this treatment, the symptoms of peritonitis abated.

*June* 22.—The right leg has recovered the temperature of the other, but no pulsation is perceptible in any of its arteries. A rusty coloured fluid escapes from the wound. There is no abdominal tenderness. The bowels have been freely opened by an enema. He continued to improve till June 26th, when towards evening he became much excited, imagining that the room was full of Russian soldiers. An opiate was administered; but he spent a sleepless night, and was evidently in a state of delirium tremens. From the time of the operation, we had supplied him well with stimulants, dreading such an attack, from his previous drunken habits, in his present debilitated condition. I sought the advice of Dr Seller, who prescribed a drachm of the solution of morphia, which was administered immediately, and gave the patient a sleep of five consecutive hours, after which he awoke calm and free from delirium. The wound partly healed by first intention, but the central part continued open, and discharged decomposed clots. He continued, however, to gain strength up to July 2d, when he had an attack of diarrhœa, which lasted two days.

*July 6th*.—Sixteen days from the operation the ligature came away. He now seemed in a fair way of recovery; and as my health obliged me to leave Edinburgh, I gave him into charge of my pupils, Messrs Nunn and Mackinnon, gentlemen to whose kindness I have been much indebted on many occasions. Dr Brodie was good enough to assist with his advice. From Mr Nunn's notes I find that the patient continued well up to July 10th, the edges of the wound granulating, and the discharge healthy; but about this time he became very weak, and there was a slight oozing of blood from the wound. He continued, without apparent cause, to lose strength for a day or two, when he seemed to rally and regain his spirits and appetite.

On the 15th of July Mr Nunn dressed the wound at noon; the patient seemed decidedly better, and the wound healing; but he had scarcely left the house, when the patient expressing a sudden desire to make water, started up in bed, and with an exclamation of alarm, fell back on the pillow. The nurse, on turning down the bedclothes, saw blood gushing from the wound. Mr Nunn was immediately recalled, but, of course, no further effort to save the man's life was possible, and death ensued in about five minutes.

**Post-Mortem Examination.**

My friend and late colleague, Mr Paull, now of Sunderland, was good enough to examine the parts twenty-four hours after death. He describes the wound and its neighbourhood as presenting a healthy appearance. The peritoneum was thickened, and of a dark colour, more or less adherent to the intestines, which were covered here and there with lymph. The intestines being removed, the common iliac trunk was exposed, with the ureter crossing it. At the point of deligation, which was about half-an-inch from the bifurcation of the aorta, the common iliac artery was divided, the two ends lying about an inch and a half apart, but united by cellular tissue, and each end, as Dr Brodie, who was present, informs me, tapered to a point. On tracing the distal portion, which was firmly plugged, an aneurism as large as an orange was found upon the external iliac artery. This was covered with recent blood, which, on being removed, was found to cover a rent extending nearly the whole length of the aneurismal wall. All the

gentlemen who saw the parts at the *post-mortem* examination, concur in the opinion that the hæmorrhage was from the rent in the aneurism, and not from the ends of the artery. Unfortunately, owing to the watchful opposition of the friends, the parts were so injured in their clandestine removal, that but little satisfactory evidence can be obtained from the preparation. I should be much inclined, if called upon, to operate again under similar circumstances, to place a ligature beyond the aneurism, as well as on its proximal aspect; and I regret much not having done so on this occasion.

I have laid this case before the profession, because, although the common iliac trunk has been tied eight or nine times since Mott operated successfully upon Israel Crane in 1827, still there are some features in this case which I cannot help considering of peculiar interest. The condition of the aneurism at the time of operation; it was not one which might have gone on for months or years without proving necessarily fatal, but it had already burst, and the external iliac artery was pumping its blood into his abdomen. Though the result of the operation was ultimately unsuccessful, still death was delayed for twenty-four days, and most of this time he was in comfort, and suffered no great amount of pain. He had during these twenty-four days an attack of peritonitis (the peritoneum was not injured in any way except by the violence of the blood gushing from the aneurism), and also he underwent a severe attack of delirium tremens; his previous habits made him a most unfavourable subject for any operation, and it is only surprising he survived so long. Then the operation was one of peculiar difficulty, and one for which no set rules could be laid down. I have often demonstrated the various proceedings for ligature of the common iliac on the dead body, and have read with admiration Sir Philip Crampton's graphic description of his operation, but I must confess the one I have just related, bore but little resemblance to any of them; for, instead of the parts being as distinctly visible as on the dead body, I could see nothing after I got through the abdominal wall, save clotted blood and discoloured peritoneum; the former I dared not remove till my finger was on the vessel, as the blood threatened to gush out on the least removal of the pressure, and the latter required great gentleness in handling, lest it should be scratched or torn, and thus fresh danger added to the many already existing. But the artery was reached without any disturbance of the surrounding parts, or exposure of the vein; and I make this observation to illustrate the necessity of what I have long endeavoured to inculcate in the dissecting-rooms, that to be a useful anatomist, you must be able to recognize and appreciate parts by touch as well as by sight, and that you can only acquire this power by constant practice, not only in the dissection of the dead body, but in manipulating and fingering carefully all its tissues, without looking at them, as a blind man reads with the tips of his fingers.