

been done many times in various parts of the world and the annals of this distinguished body contain no less than twelve cases. The case which he has the honour to lay before them possesses peculiarities, and will, he hopes, afford some practical inferences.

James A., aged about thirty, on the evening of December 23rd, 1843, while in a state of intoxication, slipped on ice, fell, and struck his left shoulder against the kerb-stone of the side-walk. Surgical aid was called, and violent efforts were made to reduce the dislocation, but in what manner the patient could not tell, excepting that he thought one person placed his foot with a boot on, in the axilla. He was sent to the hospital, and on the next day was seen by the author, who found the left arm and shoulder much swollen. Leeches and cold applications were employed, and on the following day the swelling was so much reduced as to enable him to decide that no dislocation existed. During the night of the third day following, (Dec. 28,) the patient was seized with a violent fit of coughing, in which he felt something give way in his shoulder. The next morning the shoulder and arm were very much discoloured and enlarged, the arm was painful, and the patient much prostrated. On the 30th it was discovered that the man had no pulse in his left wrist, or in any part of the arm, and he had also lost both feeling and motion in the extremity. The swelling increased until it became enormous, the arm turning back in the axilla. A vesicication was noticed on the back of the forearm. January 27th, 1844, an abscess was found to be forming in the axilla. In seven days it pointed, but did not open till February 4th, when it discharged a coagulum, and about a pint of dark-coloured blood. Three days subsequently, at six o'clock in the morning, a sudden gush took place from the wound, by which the bed was inundated, the mattresses soaked, and the blood poured upon the floor. Exhausted and almost lifeless, he sunk into a state of syncope, and the hæmorrhage ceased. As he was too low to undergo any operation, it was agreed that if he lived till the next day, the subclavian should, if possible, be tied. By the next morning, he had much revived. At ten o'clock he took eighty drops of the tincture of opium, and at eleven was carried into the operating theatre.

A great difficulty presented itself in the outset of the operation, the swelling of the shoulder, the tumour in the axilla, and the natural shortness of the neck almost obliterating the space between the shoulder and lower jaw. The author, after minutely detailing the steps of the operation, states that the aneurism needle was passed under the first dorsal nerve, which was mistaken for the artery. The wound was too deep, too narrow, and of consequence too dark, to permit the artery to be visible. The anterior scalenus was partially visible, and passing the forefinger of the hand to the edge of this, a good portion of the muscle was divided by the probe-pointed bistoury, introduced upon the finger. The subclavian artery then became quite sensible to the touch, and slightly distinguishable by the eye. A long aneurism needle was passed under the artery, and at this moment a slight whistling was heard, and the author was satisfied that some air had entered the thorax. The ligature was tied, and the wound closed.

The patient improved after the operation. On February 22d, the thirteenth day, the ligature was removed. On the 29th, a stream of blood was seen to issue from the unclosed part of the wound; the blood lost amounted to about a pint, did not issue per saltum, and was of a venous colour. The hæmorrhage was arrested by pressure. At the commencement of March he had an attack of pneumonia, confined to the lower lobe of the left lung, and also a second attack about the 1st of May. By the first of October, the swelling had disappeared from the arm, and the motion had returned in the shoulder-joint. The large excavation in the axilla was reduced to a fistulous tube. On

February 4th, three hundred and sixty-one days after the operation, the author was able for the first time, to detect a distinct pulsation in the radial artery, and subsequently one of an indistinct character in the ulnar and brachial. The patient, June 15th, had nearly recovered. There were still fistulous openings in the neck and axilla. Sensation and motion were slowly improving.

The author remarks, that the cause of the rupture of the subclavian artery in this case is involved in some obscurity. The probability seems to be, that great violence was employed in the attempt to reduce the bone, and that the arteries and nerves were contused by strong pressure of the operator's boot, combined with the forcible extension of the arm. The vessel did not rupture immediately, because its coats were contused, and not torn asunder, but a separation of the contused parts took place, in consequence of the violent efforts of coughing, on the fifth day after the accident. The author, after noticing the occurrence of secondary hæmorrhage twenty days after the operation, makes some extended observations on adhesion of the coats of the vessel within the ligature, on the formation of a plug of coagulum on the cardiac side of the ligature, and on the effusion of lymph external to the artery.

Various circumstances in this case led to the examination of other cases of the same operation. These are arranged in a tabular form, and notice is taken of one striking and important result—viz., that the operation of ligature of the subclavian is the least successful of any on the great arteries, the deaths being about two-fifths of the whole number of cases contained in the table.

Here follows a table of fifty cases, showing the name of the operator, the date of the operation, the side, seat of the ligature, the period afterwards at which the pulse returned, the period at which secondary hæmorrhage occurred, the date of the separation of the ligature, and the result of the case.

Mr. TAMPLIN alluded to the occurrence of the hæmorrhage on the second occasion, before the operation, and asked if means should not have been taken at that time to arrest it?

Mr. ARNOTT remarked, that it had been asked why nothing had been done to prevent the secondary, or rather the hæmorrhage, in the first instance, when it could not be called secondary. Before adverting to this, he could observe, that Dr. Warren was an able surgeon, as every one who saw him in England a few years ago must know, and that he was not likely to neglect any circumstance or point in an important case. But the truth was, cases of the kind were very difficult ones. Here is a dislocation; in reducing it the heel of a boot is forced into the axilla. In five days afterwards, something gives way under coughing, and a large effusion of blood takes place in the axilla and arm; matter forms and is discharged, and in a day or two, the coagulum being loosened, copious hæmorrhage takes place. The axillary artery is supposed to have given way; and had Dr. Warren known where it was injured, no doubt he would have followed the rule of practice in case of an injured artery—viz., have cut down upon it and tied it at the seat of injury. But he did not know, he was not certain, and then he did the next best thing, he tied the artery above the swelling. In the remarks appended to the case, Dr. Warren adverts to several points as if they were new; he seems to suppose, for instance, that the fact of an artery uniting under a ligature without any internal coagulum taking place in the artery is so. But this circumstance has been long known in England, and though usually such conglum does form, yet you may occasionally have firm union near to a collateral branch, even without any internal coagulum being formed. The doctor speaks of adhesion taking place under the ligature; Mr. Arnot was not sure if he understood exactly what was meant; but certainly no adhesion takes place under the ligature. The