Clinical and other Notes.

A CASE OF DIFFUSE TRAUMATIC ANEURYSM AND LIGATURE OF THE FIRST PART OF THE SUBCLAVIAN.¹

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Ligature of the first part of the left subclavian artery is an operation attended by many difficulties and dangers. I have only been able to find two successful cases recorded of ligature on the right side and none on the left. My references are, however, limited. Erichsen condemns the operation as "bad in principle" and "most unfortunate in practice," and considers that it should be "banished from surgical practice." Hence a few notes on a recent successful case may be of interest.

Private C. was brought to the hospital on the evening of August 25, 1911. He was faint and his clothes were blood-stained. He had been on guard, had fainted, and fallen forwards on to his bayonet, the point of which had entered through the left anterior axillary fold for an uncertain distance. There was no bleeding from the wound, but there was evidence of a collection of blood in the subclavicular region and inner part of the axilla. He complained of an aching distended feeling in the arm. The wound was dressed and pressure applied. The temperature in the evening was 100°.6.

The patient had a restless night, but no external hemorrhage; there was marked pulsation and a bruit over the subclavian swelling, which had not increased in size. The left radial pulse, which was at first feeble, was now equal to the right. There was apparently slightly obstructed venous return from the arm. The temperature was 99°-8 in the morning and 100°-4 in the evening. He had another restless night, and on the morning of August 27 he complained of severe pain down the arm, which was slightly swollen; the pulsation, bruit, and size of the swelling were unaltered. The temperature was 99°-6 in the morning and 100°-4 in the evening. He had a very restless night, almost delirious with pain, and attempted to tear off his bandage. On August 28 the arm was more swollen, and the obstructed venous return more obvious. I saw him for the first time on this day in consultation with Lieutenant-Colonel F. J. Morgan, R.A.M.C., and decided to operate at once. The temperature was 99°-4.

Operation.—The usual incision for ligature of the third part of the subclavian was made, the omo-hyoid was pulled up, and the outer border of

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the scalenus anticus exposed. Owing to the clavicle being very much pushed upwards and forwards the wound was of considerable depth. No trace of either subclavian artery or vein could be found external to the scalenus anticus muscle. The wound was extended inwards and the sterno-mastoid partially divided; the depth of the wound increased, and presently a large artery, partially overlapped on its inner side by a vein, was exposed, descending vertically along the inner border of the scalenus anticus. The wound was now very deep, and the greatest care had to be exercised. Unfortunately at this point a small vein was torn close to its junction with the large vein and the wound was flooded with blood. A ligature was placed on this after much trouble and waste of valuable time. The artery was now compressed by the finger and the radial pulse was at once obliterated; pulsation below the clavicle also ceased. The vessel was taken to be the first part of the subclavian and was ligatured. The passing of the ligature took some time, as I had to proceed with the utmost caution, and the depth of the wound and the condition of the patient did not warrant me in tracing the artery any further. The wound was sewn up, leaving a gauze drain. The axilla was then opened, clot and serum evacuated, and a large drainage tube inserted. The temperature in the evening was 102.8°.

On August 29 the part was dressed, a light plug inserted in the upper wound, and a tube left in the lower. The temperature was 99.4°. He stated that he was absolutely free from pain in the arm, but there was slight tingling of the fingers. There was no pulsation below the clavicle and no radial pulse. The arm was kept swathed in cotton wool.

On September 4 he was doing very well; there was a little serous exudation from the upper wound.

On September 18 both wounds were completely healed; there was some stiffness about the muscles of the shoulder, which was being massaged. No pulse could be felt in the radial artery.

On September 27 he was discharged from hospital, complaining of some numbness of the first and second fingers.

On October 11 he was marked "light-duty" for one week, before resuming full military duty on October 18, 1911. No pulsation was felt in radial artery.

The chief point of interest about the case was the abnormal course of the artery. When first exposed I thought it must be the common carotid from its vertical course. The result of the ligature, however, leaves no doubt that it was the subclavian. The vessel must have either (1) made a very high arch in the neck on the inner side of the scalenus anticus; or (2) taken origin from the common carotid in the neck instead of from the arch of the aorta, though this is an abnormality I have never read of. The almost immediate relief of the pain, presumably due to nerve pressure, was a gratifying feature. I am indebted to Lieutenant-Colonel F. J. Morgan, R.A.M.C., for his valuable assistance during the operation and for permission to publish this case.