the inner side of the nipple. The suprasternal notch was obliterated; and, on palpation, a strong pulsation was felt in it. The pulse in the left carotid artery was apparently somewhat more forcible than in the right. A further pulsation was felt in the right supraclavicular fossa. The radial pulses were apparently equal. Over the inner end of the right clavicle there was considerable tenderness on pressure. A rasping systolic *bruit* was heard in the right supraclavicular fossa; a very faint *bruit* being heard in the corresponding left.

The operation was performed on July 28th, antiseptically. The carotid artery was tied first, and then the subclavian. Both vessels were tied with carbolised silk. In tying the carotid, some delay took place, owing to the great venous distension, one of the thyroid veins, especially, bleeding quite fiercely. At one time during the operation (which was done under ether), the patient became extremely blue; but this disappeared, to a great extent, on raising the head. No very immediate effect followed the ligature, beyond a slight diminution in the pulsation above the sternum. The operation lasted about one hour, including the administration of ether. On the patient regaining consciousness, he stated that the pain in his right arm had quite disappeared. On the evening of the operation, the temperature ran up to 101°. The right arm remained decidedly cold for some hours, but by midnight the temperature of the two limbs was about equal.

July 29th. The patient slept well after taking twenty grains of bromide of potassium and twenty minims of tincture of opium every three hours.

July 30th. During the night, he passed a large quantity of dark fluid blood *per anum*. He had been complaining of pain in the abdomen for some hours previously.

July 31st. The antiseptic dressing was removed under the spray. The wounds were already healed by first intention. There was no blush, or signs of tension. The patient complained very much of the irksomeness of lying quiet, and of pain in the forehead. His eyesight had improved. The left pupil remained larger than the right, as it was previously to the operation. The right arm was rather cyanosed, but quite warm. There was no numbness.

August 31st. The carotid ligature came away.

September 4th. The subclavian ligature came away.

September 23rd. The patient left the hospital to-day, being free from pain. He is of a restless disposition, and was very averse to the confinement of the hospital.

The aneurysmal swelling is much diminished; and, as long as he remains at rest, he is free from dyspnoea, pain, or other uneasiness.

CASE OF AXILLARY ANEURISM CURED BY LIGATURE OF THE SUBCLAVIAN ARTERY.

By W. C. ARNISON, M.D.,
Surgeon to the Newcastle-on-Tyne Infirmary.

L. G., AGED 50, shoemaker, was admitted February 23rd, 1878. Two days before Christmas, he felt a sudden pain over the tip of the left shoulder; four days afterwards, he noticed a lump, about the size of a nut, below the middle of the left clavicle. This slowly enlarged, and "ticked like a clock". By the advice of a surgeon in Sunderland, he applied cold wet cloths, after which the "ticking" became less; but he then began to feel pain shooting down the arm, and numbness of the fingers.

On admission, there was a tumour, of the size of an orange, situated directly below the middle of the left clavicle; expansile pulsation was felt above and below the clavicle, and in the axilla; thrill was felt, most marked at the lower portion. The clavicle was arched upwards. The veins over the tumour and down the arm were engorged. The radial pulse was faintly perceptible. With the stethoscope, a loud aneurysmal murmur was heard all over the tumour. There was also noted an apparent aortic systolic murmur, and slight intermittent action of the heart. The sphygmograph tracings, which Dr. Byrom Bramwell kindly took, showed, on the right side, a perpendicular up-stroke, terminating in a sharp point, with the down-stroke notched, as indicating atheromatous vessels; on the left side, a very short sloping up-stroke, forming a wide curve, with an unnotched down-stroke.

The patient was a thin spare man, looking older than his age, and with faint arcus senilis. For the last two months, he had been much out of work, and had been exposed to great privation. He was a free drinker when he could get it. He denied syphilis; but two or three depressed cicatrices were seen on the glans and corona.

For a fortnight, treatment was directed solely to his general condition. During that time, his health and appetite improved, but the tumour

increased. An attempt was then made to apply pressure by means of a wedge of wood, with the thin end rounded and padded with India-rubber. Chloroform was given, and anaesthesia was then kept up by ether. I was assisted by Mr. Dixon, House-Surgeon, and Mr. Dodd, a student. The brachial artery was first compressed, so as to fill the aneurism, and pressure was then applied above the clavicle; but we found it impossible to control the pulsation so completely as to allow a clot to form, and, after nearly two hours' pressure, during which cold was applied by ice-bags, and occasionally ether-spray, the tumour was scarcely at all either smaller or firmer, and in a day or two it was as large as before. The patient was now transferred, for a time, to the care of Dr. Bramwell, who tried the effect of iodide of potassium in half-drachm doses, three times a day, with rest; no effect was produced. The aneurism was increasing in size, and pressure-signs were fully developed. He had oedema of the hand, and complete paralysis of motion, without much pain, in the whole arm and hand; sensation was not impaired.

On April 3rd, he left the hospital, refusing any operation.

On April 10th, he was readmitted, the tumour having in the interval enlarged considerably; the skin over its inner side visibly thinning, and the clavicle being more arched.

The patient now gave a reluctant consent to operation, and on April 15th, after consultation with my colleagues, a ligature was placed on the subclavian. The patient was placed under the influence of chloroform, as it was found, on the former occasion, that ether kept up a continued cough. An incision was made over the clavicle, dividing the skin, platysma, and the external jugular and a cutaneous vein, which could not be avoided. After a little careful dissection, the posterior belly of the omo-hyoid muscle was seen and held aside; and, much more readily than I had expected, the artery was reached. The cords of the brachial plexus were held aside, the sheath was opened, and an aneurism-needle passed carefully round the vessel. An attempt was made to tie the vessel with catgut, but the ligature broke twice. Carbolised silk was therefore used, and held firmly, and the vessel was secured with a double-knotted silk ligature and two single-knotted catgut ligatures. The divided veins were then tied at both ends, sutures were applied, and a drainage-tube inserted. The operation and dressing were done antiseptically, and under a steam spray.

The following morning, April 16th, the radial pulse was faintly but distinctly felt. He had passed a good night. Oedema had nearly disappeared, but paralysis continued.

On April 17th, the radial pulse was more distinctly felt. The limb was warm; the cotton-wool covering was removed.

Up to the 21st, the case progressed favourably. The wound healed rapidly; but the radial pulse became fainter, though the limb remained warm.

On the 22nd, the temperature rose, and redness and oedema appeared over the tumour, which had increased in size, without pulsation or pain.

On the 23rd, the sac was evidently suppurating; and in the evening it burst through the wound, discharging about three ounces of pus and blood-clot; but no hæmorrhage took place. Discharge continued, with relief to the feverish symptoms, until the 27th, when the tumour appeared to be pointing at the part where the skin was thinning before the operation. An incision was made into it, giving exit to a quantity of most offensive pus and blood-clot; the sac was well washed out with carbolised water; and a drainage-tube inserted. From this time, his recovery was rapid. By the 8th May, the wounds were healed, and he was walking about; and he is now, as regards the aneurism, perfectly well; but, unfortunately, the whole arm remains paralysed, with atrophy of the whole of the muscles. The supposed aortic systolic murmur has disappeared.

REMARKS.—There is nothing in the case calling for special remark, except the kind of ligature employed. The thick catgut twice broke, compelling me to use silk; but the result was not in any way influenced. The silk, equally with the two partially secured knots of catgut, were included in the healing wound, and caused no trouble.

I must, in conclusion, express my great obligation to Mr. J. D. Dixon, M.B., House-Surgeon, for the anxious and watchful care which he bestowed upon the case.

BEQUESTS.—The late Miss Jessie Landseer, sister of the late Sir Edwin Landseer, R.A., has bequeathed £100 each to the British Home for Incurables, Clapham Rise; the Royal Hospital for Incurables, Putney; St. Mary's Hospital; the Brompton Consumption Hospital; the Middlesex Hospital; the Metropolitan Free Hospital; and £50 each to the Hospital for Sick Children, Great Ormond Street; the Blind School; the Home Teaching Society for the Blind; the West London Hospital; the Westminster Hospital; the London Fever Hospital; and the National Hospital for the Paralysed and Epileptic.