up off the iliac and lumbar fasciae. The ureter was raised with the peritoneum. An excellent view of the external and common iliac arteries was obtained, and the bleeding was slight and easily controlled. By means of a helix-curve aneurysm needle the common iliac artery was freed from a small amount of fat, and a strong chromic gut ligature passed and securely tied. The large wound was for the most part stitched up in layers, but the part in the loin was packed with iodoform gauze. The patient stood the operation well, and made up rapidly for the loss of blood. Unfortunately, the wound suppurated, but this was not wonderful, considering that there had been all along an infection of the original wound, probably from septic material carried in by the knife. This, however, materially delayed the healing, and it was not till August 11th that he was dismissed to the Convalescent Home.

After leaving the wards he was only seen once by me, as he found it impossible to come to the infirmary on week days. He was seen by one of my dressers and also by my staff-nurse fully six months after leaving us, and was then in full employment as an outside porter at the Glasgow Central Railway Station. I understood his work to consist mainly in taking commercial travellers' large sample boxes on a hand-barrow about the town—a sufficiently trying and laborious occupation. It is not too much, I think, to claim this not only as a "recovery" but as a perfect cure.

Although ligature of the common iliac artery is not a common operation, there are a considerable number of cases recorded, most of them belonging to the early half of last century. J. D. Bryant (*Operative Surgery*) states that it has been ligatured sixty-nine times with only sixteen recoveries, but there are no doubt many unrecorded cases. A former case in my wards about two years earlier than the above has not yet been placed on record. The operation was done by my colleague, Dr. H. Rutherford, in my absence, for secondary haemorrhage following an amputation at the hip for osteomyelitis of the ilium. Crampton's incision was used, and the patient made a good recovery from the ligature operation, but succumbed about a month later to remote pyaemic consequences of the original disease.

My purpose in this present communication is to show that even with a triple ligature—in common iliac, common femoral, and profunda arteries—the nutritional condition of the limb may still remain excellent, and its functional effectiveness be perfectly restored. I do not suppose that the case is unique, but such experiences must be rare, and my search into the literature of the subject has not resulted in the unearthing of another.

It may be asked why I did not adopt the shorter, easier, and more direct method of ligaturing the common iliac by the intraperitoneal method. The sufficient answer is that the case was a septic one, and I was not prepared to run the risk of a septic peritonitis, which would probably have proved fatal.

INNOMINATE ANEURYSM: SIMULTANEOUS LIGATURE OF RIGHT CAROTID AND SUBCLAVIAN ARTERIES: RECOVERY.

By H. N. DUNN,
Major, R.A.M.C.

H. S., an ex-soldier, aged 40, single, contracted syphilis in 1886, when he was under treatment for some weeks.

Early in July, 1904, he suffered from severe neuralgic pains radiating from the right side of the chest to the back of the head, and extending into the right shoulder. He attended the out-patient department of the Royal Arsenal Hospital, but no physical signs were apparently present at the time.

On September 27th, 1904, the pains being more severe, he again presented himself at the hospital, and when seen by me a well-marked pulsatile swelling occupied the episternal notch, and extended from the sternal origin of the left sterno-mastoid muscle to the junction of the inner and middle thirds of the right clavicle; the tumour measured 3½ in. laterally, and projected upwards above the clavicle for 1½ in., the lower margin being ill-defined, well-marked expansile pulsation with a systolic murmur being present. The trachea was displaced to the left, dysphagia on swallowing solids, and dyspnoea on exertion or assuming the prone position were also complained of. He also suffered from severe pain along the right side of the head and neck and right shoulder and arm, the radial pulse on the right being also smaller than that on the left side, and its rhythm some-

what delayed. His voice was reduced to a whisper, and his cough "brassy" in character, the right vocal cord being fixed and motionless, due to direct pressure on the recurrent laryngeal nerve, but no "tracheal tugging" was observed. As the man was exceedingly ill and the tumour enlarging rapidly, Mr. Bidwell, of the West London Hospital, kindly saw the patient, and confirmed the diagnosis of innominate aneurysm.

The case was admitted to the Royal Arsenal Hospital and put on a modified Tufnell's diet, and large doses of pot. iod., 30 to 50 gr., administered three times a day. An attempt to get an x-ray photograph of the tumour was unsuccessful. For the first few weeks after admission marked improvement—due to the rest and the dieting—took place, but as the tumour subsequently increased in size operation was decided upon.

With Mr. Bidwell's assistance the right common carotid was ligatured above the omohyoid muscle and the subclavian tied in its third stage; the patient being a man with a long spare neck there was no particular difficulty about the operation, the subclavian being easily reached below the clavicle, as suggested by Mr. Bidwell, by elevating the shoulder; both arteries were apparently healthy at the site of ligature, and double strands of silk were used. Both wounds, with the exception of one small stitch point, healed without suppuration. His temperature rose to 99.6° F. on the day following the operation, and fluctuated between that and normal until the fourteenth day, when it finally settled down. He complained of severe pain along the right arm, but no oedema occurred, nor did any head symptoms supervene.

Immediately after ligature of the arteries a decided diminution of the sac took place, and that portion in the episternal notch became firmer and less expansile, but subsequently the remainder of the tumour enlarged slightly upwards and outwards, and pulsated somewhat more freely than before ligature. His condition on March 29th—fifty-one days after operation—was as follows: That portion of the sac in the episternal notch has consolidated, and feels firm to the touch, although faint pulsation is still felt, and the sac itself is tender on pressure. His voice has much improved, but cough is still "brassy," and paralysis of the right cord persists; some difficulty in swallowing solids continues, but pain has disappeared.

The patient was discharged from hospital on April 7th, at his own request, and on May 1st—eighty-one days after the operation—was recommended for light employment. He now walks about a mile and a half to and from his work daily, without dyspnoea, and can follow his occupation of cleaning tools at the bench without inconvenience of any sort except slight fatigue of the right arm and shoulder. The tumour has shrunk considerably, and is firmer and less expansile, measuring 2½ in. laterally, and extending for ¾ in. above the clavicle. Paralysis of the right vocal cord is still present, and on inspection there is a slight fullness immediately above the right clavicle, and the external jugular vein is more prominent than that on the opposite side. No temporal pulse is to be felt, although a faint radial pulse is present, and coldness and slight weakness of the right arm remains.

The following statistics, taken from records available at the Medical Graduates' College, London, may be of interest:

Mr. Bennett May, F.R.C.S., in the *Lancet* of June 14th, 1884, reported the result of 35 cases of distal ligature of carotid and subclavian for innominate aneurysm; of these, in 29 both arteries were ligatured simultaneously and 6 consecutively; 23 died, death being hastened by the operation; in 6 the disease was not checked, and 6 were practically cured. He also reported 29 cases in which the common carotid alone was tied, and of these 19 died from operation or soon after; in 6 the disease was not arrested, and 4 were practically cured or showed marked improvement.

I have also been able to find accounts of 10 other cases of simultaneous distal ligature of both arteries, reported in the medical journals; in 5 the sac became firmer and smaller, and the patients were able to do light work; in 4 death occurred in periods varying from ten days to one year (2 from lung trouble, and 1 as the result of hemiplegia); in 1 the condition was relieved but not cured; in no case, however, was there complete consolidation of the sac, although in one case it was reported to have shrunk to the size of a "walnut."

BEQUESTS.—The late Miss Eleanor Tamlin Reid, of 26, St. Petersburg Place, Hyde Park, whose will has now been proved, bequeathed £1,000 to the British Home and Hospital for Incurables.