that convalescence would, at best, be very protracted after the requisite operation. On July 11th, 1902, the operation of sequestrotomy was done under ether. The limb having been rendered bloodless (by means of an elastic bandage and a tourniquet applied above it), a vertical incision 6 inches long was made through the soft tissues over the site of the sinuses and extending upwards on the limb; the bone was freely exposed and found to be much thickened and indurated, with a roughened surface and riddled by several cloacæ. The eburnated bone was with difficulty chiselled and gauged away longitudinally between the cloacæ for 3 inches and the central cavity exposed. Several long sequestra were removed from the interior of the shaft of the femur, together with much bone débris and ill-formed granulation tissue. The central cavity, which extended both up and down the shaft for some distance, was thoroughly scraped out and irrigated with hot antiseptic lotion, and the whole wound subsequently tightly packed with sterilised gauze and firmly bandaged up before removing the tourniquet.

The immediate result of the operation was a fall in the evening temperature, which had previously been of a hectic type. The after-progress of the case was of necessity very slow, tedious and protracted; repair of the bone and the closing of the wound in the softer tissues took place very gradually. The patient remained in hospital for nearly three months, towards the latter part of which symptoms of fresh trouble in the upper third of the femur began to develop. The patient was very loth to undergo any further operative treatment, and having been invalided out of the Service, at his own very urgent and repeated requests he was discharged from the Royal Infirmary on September 26th, 1902.

It was ascertained that the patient applied at the Meath Hospital for further treatment and is still under advice there. I was indebted to Civil Surgeon Meldon for kind assistance at the operation.

AN INSTANCE OF TRICUSPID REGURGITATION.

By CAPTAIN J. H. P. GRAHAM.
Royal Army Medical Corps (Militia).

Tricuspid insufficiency due to organic lesions is regarded as one of the rarer forms of valvular heart disease, particularly so when such lesions are due to a chronic sclerotic process rather than consequent on an acute endocarditis; even when due to functional disturbance it is generally considered to be of infrequent occurrence.

Speaking of the functional disorder, Gibson, however, dissents from this view, and says that "it is incomparably the most common of valvular lesions." He supports his contention by saying that as the condition does not seriously impair the circulation it usually escapes observation unless especially looked for.
The determining cause of relative insufficiency is the existence of increased resistance to the blood flow in the pulmonic circulation of sufficient degree to stretch the tricuspid ring, it giving way rather than the pulmonary, owing to the greater strength of the latter. Such increased resistance is brought about by a variety of conditions, some local, others remote, which it is needless to enumerate here; suffice it to say that in the case under consideration none of the usual causes could be found in operation. In the absence of a more obvious cause it is attempted to explain the condition by assuming that some cause, probably functional, was temporarily in operation, whereby an overfilled state of the capillary system was brought about, inducing in consequence a much increased strain on the heart; and that the valvular ring capable of least resistance gave way, exhibiting a "safety valve" action. It would not be necessary for the pressure to arise primarily in the pulmonic circulation to thus affect the tricuspid valve, increased resistance in the systemic circulation would affect it rather than valves nearer the point of pressure, owing to their greater powers of resistance. Two physiological facts seem to lend support to this conjecture: that any increase in the quantity of blood raises blood pressure, and that as the pressure rises in the arterial system it falls in the venous. The somewhat bloated condition of the patient on admission, and the rapid disappearance of signs of circulatory embarrassment which took place as the very free diuresis came on, seem to point to vascular plethora. A fall of pressure in the venous system would undoubtedly favour regurgitation from the right chambers of the heart, and explain an accentuation of the murmur when the patient assumed the recumbent position.

A patient was admitted to the Station Hospital under the care of Lieutenant-Colonel O'Connell on February 11th, 1904. Complaint was made of pain about the lower costal zone, and particularly in the right hypochondrium, of a few days' duration, cough, and swelling of the legs. The patient was a stout man of sallow complexion, and looked at least ten years older than his stated age, namely, 31 years. The tongue was furred and he was constipated; the abdomen was somewhat distended, but no free fluid could be detected; spleen not enlarged. There was slight tenderness over the liver, and very marked pulsation of an expansile character which could be traced round into the flank. The urine was much diminished in quantity, only 1½ pints being passed in twenty-four hours after admission; it was darker than usual and deposited a slight cloud on cooling; specific gravity 1012, acid. No albumen nor bile pigment was present. There was cough and expectoration of a small quantity of watery mucus; the vesicular murmur was somewhat increased and the chest sounded as if hypertrophic emphysema existed. The area of cardiac dulness (superficial) was increased in slight degree upwards and was continuous below and to the right with the hepatic dulness. There was a murmur, systolic in time, heard at a spot close to the sternum
at its lower end, very limited in area, and propagated only a short distance vertically. There was very marked pulsation in the veins of the neck, the radial pulse was full and not easily compressed. The legs were oedematous from the knees to the ankles. The patient was kept in bed, given a plain milk diet and one pint of soda-water each day; a dose of soda sulphates each morning, and ferri et ammon cit., grs. v., thrice daily.

Under this treatment free diuresis ensued, the patient passing 6, 6, 7, 5, 4½ pints of urine on the five days subsequent to admission; this urine was normal. The heart murmur had disappeared by February 16th, being best heard in the recumbent position; it was then replaced by reduplication of the first sound at the apex, which eventually became natural. The oedema of the legs, the abdominal resistance and fulness of the face, together with the hepatic and venous pulsation, gradually subsided, and on February 29th the man was discharged to his duty.

It may be added that the man admitted being a free liver.