ON PRIMARY UNION
AFTER
EXCISION OF TUBERCULAR HIP-JOINTS.

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THE object of this short paper is to draw attention to the fact that the wounds necessary for the extirpation of tubercle from joints will heal as rapidly and as permanently as other wounds of a similar size, if certain essential conditions be secured :

1. The whole of the tubercular growth must be removed.
2. Perfect asepsis must be assured.
3. Bleeding must be checked and the wound made as dry as possible.
4. Oozing must be restrained by the even elastic support of a wool dressing and a moderately tight bandage.
5. Absolute rest of the part must be maintained during the process of healing.

The last four of these essential conditions may be secured in all cases, but the first, viz. the complete extirpation of the tubercular growth, cannot be guaranteed in

any. It is, however, possible that the disease may be arrested even if a little of the tubercle be left.

The hip-joint has been selected for illustration of the views and methods of treatment advanced in this paper, because I believe that of all excised joints the hip has been found the slowest to heal.

In June, 1888, Mr. Barker, in his Hunterian Lectures at the Royal College of Surgeons, expressed his belief that drainage-tubes might, in suitable cases, be dispensed with and healing by first intention might be secured after excision of the hip on these principles. The soundness of this opinion Mr. Barker soon demonstrated. Up to that time I never ventured to treat an excision of the hip without a tube, as I doubted the capacity of the wound to dispose of the serous discharge. Since Mr. Barker's operation four cases of advanced hip disease with caseous abscesses have come under my care. In three of them the abscess was in front of the joint, and in the fourth it was behind it. Three were operated upon by the anterior incision, and the fourth by a curved incision round the upper and posterior border of the trochanter. Drainage-tubes were not employed in any of the cases. The serous discharge either escaped between the stitches or was reabsorbed by the wound, with but slight fever, and that of short duration. The dressings were changed on the seventh day after the operations and the wounds were found to have healed by first intention throughout.

The following case is one of the three operated upon by anterior incision.

T. S—, a boy, æt. 8 years, was admitted to the North Eastern Hospital for Children on May 29th, 1888. Two months later doubtful deep fluctuation was detected at the upper and outer part of the thigh. A month later the fluctuation was very distinct. On September 1st the abscess was opened by the anterior incision, and after it had been scraped out, it was plugged with sponges. The track from the abscess into the joint was enlarged sufficiently to allow of the extraction of the head of the femur

after the neck of the bone had been divided with Adams's saw. There was a pouch behind the trochanter beneath the glutei muscles. This and the cavity of the joint, including the acetabulum, which was denuded of cartilage, were scraped and repeatedly scrubbed with sponges until not a trace of tubercular débris could be removed. The cavity of the joint was then tightly plugged with sponges mounted on clamp forceps and the sutures were placed in position. After removing the sponges the wound was syringed out with an emulsion of iodoform, and the cavity of the joint was left full of the emulsion until the sutures were tied. A pair of sinus forceps was then passed down to the acetabulum, between two of the upper sutures, so as to make a track, along which as much as possible of the fluid might be expressed by abducting the limb and pressing over the front and back of the joint. A dressing of boracic-acid powder thickly laid on, and covered by salalembroth gauze and wool was quickly applied and fixed on by a rather tight spica bandage. A double Thomas's splint was finally adjusted.

The highest temperatures were 101.2° on the fourth day, 99° on the fifth, and 100.2° on the sixth and seventh; the temperature was afterwards below 100° . Some serum soaked through the dressing a few hours after the operation. The soiled spot was mopped over with 1 in 500 solution of perchloride of mercury, and some more wool was put on over it. The dressing was changed for the first time on the seventh day after the operation. It was quite dry. The wound had healed by first intention. Three stout sutures of relaxation were removed. On the tenth day the fine adjusting sutures were taken out and a small piece of wool fixed on with collodion formed the subsequent dressing. Before the operation the boy complained greatly of pain and screamed repeatedly in his sleep; after it he was free from pain and slept quietly. He was discharged on September 29th (the twenty-eighth day after the operation). The hip has since remained sound.

In another case the operation and subsequent progress

were almost identical with that just narrated. In the first case which I treated without a tube a tubercular sequestrum was removed from the acetabulum and caseous tubercular material was scraped from a cavity within the pelvis, between it and the obturator internus muscle. Healing by first intention was nevertheless obtained. An equally successful result was achieved in the case operated upon by the posterior incision. The natural relation of parts was disturbed as little as possible; the neck of the femur was divided without dislocating the head of the bone, and the latter was removed by forceps.

If the skin over a tubercular joint be sound, notwithstanding the presence of a caseous abscess, the joint is aseptic, and if the whole of the tubercle be removed and the joint be left aseptic, there is no reason why the joint should not heal soundly and remain sound.

If a tubercular focus in the subcutaneous tissue be freely laid open and completely removed, the wound if closed will heal by first intention and remain sound.

It is here suggested that the only difference, from a surgical point of view, between the subcutaneous tubercular focus and one in a joint is that in the latter we have to do with a more complicated cavity and consequently with one from which it is more difficult to remove the tubercle completely. If the tubercle be as thoroughly removed from a joint as it can be from a subcutaneous focus the former will heal just as well as the latter. There was an abscess in each of the four cases of hip disease referred to above. The acetabulum was bare in all, but it was perforated in only one. In the latter case it was not possible to be sure that the whole of the diseased tissues had been removed from the interior of the pelvis, and the sequel of the case showed that they had not all been removed. After the joint had been healed for three months a tubercular focus appeared beneath the scar. This was incised, and on scraping away the tubercle a track leading to the perforated acetabulum was found. The tissues about were firm and healthy. This case shows that an

excised hip may heal notwithstanding the presence of tubercle, but it also shows that the chances of a permanent cure are slight unless all the tubercle be removed.

It is possible for recurrence of the disease to take place in any case, but the fear of recurrence should not prevent an attempt being made to get rapid healing; for, if the wound heals by first intention, the inflammation of the tissues must be very slight and entirely limited to the parts injured, and consequently the vitality of the tissues will be but little impaired and their powers of resistance to the invasion of tubercle will be but little diminished.

P.S. (May 9th, 1889).—The two cases referred to first in the above paper have had no relapse. In the case operated upon by the posterior incision a fresh abscess formed in front of the joint; it is not yet healed. In that in which the acetabulum was perforated it has been necessary to scrape the sinus again; it is now healed.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. i, p. 33.)