

articular tissue. They occur usually from softening and perforation of the capsule itself. So much in regard to the pathology. Yet I wish at this stage to show a pathological specimen which to the fullest illustrates the pathological process as here described. The patient is a little girl ten years of age, who entered the Sisters' Hospital in Buffalo in March, 1891. She had then been sick only two weeks, and a physician had opened up an abscess on the outer side of the right femur. Contra-openings were made in the hospital and the abscess found to be situated beneath the vastus muscles, but apparently not connected with the hip-joint which seemed healthy. Two weeks after entering the hospital she grew worse and offered the usual symptoms of coxitis. Under chloroform, the joint was examined and a carious process found on the upper side of the neck. A good sized abscess was found in the pelvis and opened. As this abscess was supposed to indicate perforation of the acetabulum, I removed the head and neck, which I here show. You see a local focus in the neck which had opened into the joint, the synovial membrane of which was found thickened and tuberculous. The round ligament had disappeared and at its place a carious process is going on. The cartilages are yet healthy. I suppose the carious process on the upper surface of the neck gave occasion to the first abscess, and that the tuberculous focus perforating into the joint produced the acute symptoms of coxitis. In this case the excision was performed about four weeks after the beginning of the disease.

In another case, operated at the same time, the disease had lasted two months. I found there a sequestrum in the neck, three-quarters of an inch long, a perforation into the joint, shedding of the cartilages, osteitis of the epiphysis, diastasis of the epiphyseal cartilage and tuberculous synovitis. In both cases the operation cut short the disease, the wounds healed rapidly and the final result will be what I have always obtained: a movable joint with some shortening, which is easily overcome by aid of a thick sole. I consider this specimen of peculiar value, as showing the condition in the early stage. In later resections, in which we find diffuse osteitic processes of head, neck and trochanter major, destruction of cartilages and tuberculous degeneration of the synovial membrane, it is impossible to find the local focus, as everything

is diseased, but that does not prove that it was not present in the start.

Coxitis may, under favorable conditions, terminate in recovery in any stage, of course with more or less deformity; and the usefulness of the limb depends upon the amount of flexion and adduction. A perfect recovery with normal joint is rarely obtained. I myself remember only one case. And with what cost is this imperfect recovery with a more or less deformed limb obtained? It means years of suffering and treatment, be that with extension in bed or with a portable apparatus, frequent operations for abscesses with resulting fistulas, the dangers of amyloid degenerations of liver and kidneys, and of tuberculous meningitis, and, lastly, of an excision as *ultimum refugium* at a time when neither the broken-down constitution of the patient nor the extensive destructive processes in head, neck and shaft favor reparative processes. In those cases in which we do not have an abscess, the tuberculous focus has probably become encapsulated, surrounded with a zone of sclerotic bone tissue, and the synovial membrane is not tuberculous, although the joint may be partially or totally obliterated. In these cases conservative treatment is probably indicated. But if abscess is present, it shows that perforation has occurred, and, in my opinion, an early operation is the only thing that can arrest the disease.

And yet, why wait for abscess? The tuberculous bacillus, as is well known, is not a pyogenic bacillus, and may, under favorable circumstances, continue to grow and infiltrate surrounding or more distant tissues. If abscess occurs, the pyogenic bacteria, particularly the staphylococcus pyogenes aureus, will always be found present as the cause of the suppuration. The chronic pathological process has only become complicated by the acute suppuration, and the tuberculous process keeps on advancing simultaneously with the suppuration.

It must not be forgotten that the statistics of resection must be compared with the statistics of those conservatively treated cases, in which abscesses were present. In both classes we find a great decrease in mortality in our time.

Leisink, for instance, gives a mortality of 63 per cent. after resection, of which 22 per cent. succumbed to wound complications; 21 per cent. to marasmus; 11 per cent. to phthisis; 7.5 per