

in childhood, is always in the bone, either central or near the peritoneum. Generally only one focus is present and it is rarely the case that both epiphyses are attacked simultaneously.

The focus is generally small, as large as a cherry-pit, or at most as a nut. The neck is the point of predilection in the near neighborhood of the epiphyseal cartilage, or in the diaphysis, or trochanter major, while the head is rarely the starting point. The focus may perforate the epiphyseal cartilage in order to invade the epiphysis. It may even commence as a chronic osteomyelitis in the cavity of the femur and work its way upwards. Primary attacks of the acetabulum are probably more frequent than generally believed. Habernern states, that in his 80 cases the acetabulum was attacked alone in 50 cases, the femur alone in 23 cases and both together in 7 cases.

The focus presents itself as a little cavity filled with cheesy granulations and bone detritus and frequently a sequestrum, and surrounded with a pyogenic tuberculous membrane. Sequestra were present 51 times in Habernern's 80 cases, soft caseous deposits 29 times. If the focus perforates into the joint, tuberculous synovitis occurs with very acute symptoms. If the focus is in the neck or trochanter major, the joint occasionally escapes, the osteitis and abscesses being extra capsular.

While the osteitic process is going on in the neck and before perforation takes place, we may discover changes in the joint itself. The synovial membrane, the periosteum and the periarticular tissue become more or less infiltrated and œdematous, slight exudation may occur and a partial obliteration of the joint may take place; little by little the whole synovial membrane may be changed into a granulation tissue, and yet we have no tuberculous arthritis. When at last the perforation occurs, it is into a half obliterated joint, and the symptoms are therefore proportionately less; as a joint reacts the more severely to infectious products when the synovial membrane is physiologically intact, and the less severely the more the synovial membrane has been changed into a granulation tissue. This partial obliteration we meet particularly in the knee-joint, but less often in the hip-joint, where we consequently are more apt to meet acute suppurative arthritis. Yet even here we occasionally see a central necrosis of the head and neck being followed by an obliteration of the

joint, and thereafter destruction of the epiphyseal cartilage and diastasis of the head, which meanwhile has become firmly attached to the acetabulum. As a rule, the hip-joint is attacked early, as the whole neck, in which the local focus generally is found, is inside the synovial capsule, but we may see the joint escape even when the focus starts as a central necrosis in the head or neck. A carious fistula may then be found perforating outward through the trochanter major. This point is of importance as indicating the way in which such a central necrosis may occasionally be attacked, through trephining of the trochanter and the neck, or by ignipuncture.

The perforation of the tuberculous local focus having occurred into the healthy or half obliterated joint, further pathological changes take place, while at the same time the symptoms of coxitis, which so far have been vague and insignificant, become pronounced on account of the implication of the synovial membrane, the cartilages and adjacent Haversian canals. The characteristic symptoms are particularly the starting pains and the muscular contractions, both indicating osteitis in the neighborhood of the joint cartilages, while the position of the limb (adduction, flexion and rotation) is less characteristic, probably depending upon other causes.

The pathological changes are those of a tuberculous synovitis, with its resulting destructive processes.

The round ligament, which is covered with synovial membrane, is early attacked and softened, and then disappears.

The osteitic process generally commences at the place of insertion of the round ligament to the head and acetabulum, and on the neck at the place where the synovial membrane is attached. The cartilages become ulcerated by pressure of the granulations (Volkmann's ulcerative decubitus), or shed by pressure of the granulation-tissue, meanwhile developed in the dilated Haversian canals. The bones are now in a state of osteoporosis; the head loses its roundness and becomes smaller from pressure, just as the acetabulum enlarges by pressure upwards and backwards, or becomes perforated by gradually developed decubitus, and spontaneous dislocations and intra-pelvic abscesses result. Periarticular abscesses are rarely the result of the breaking down of granulation-tissue in the peri-