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ISOLATED DISLOCATION OF THE HEAD OF THE FIBULA

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Dislocation of the head of the fibula occurring as an isolated incident is a very rare injury and the majority of the standard text-books on Fracture Surgery make no mention of the condition at all. A review of the literature until 1940 shows that about 49 cases only had been reported. During the recent war, however, the injury was not infrequently encountered during falls in parachute landing and was usually associated with an inversion sprain of the ankle of the same limb.

The reason for the rarity of the condition is to be found in the stability of the superior tibio-fibular joint. This articulation takes place between flat oval cartilage-covered facets on the head of the fibula and the lateral condyle of the tibia. The latter facet is situated posteriorly. The bony surfaces are held together by a synovial-lined capsule which is strengthened by anterior and posterior ligaments. The anterior ligament consists of 2 or 3 flat bands which pass obliquely upwards from the front of the head of the fibula to the front of the lateral condyle of the tibia.

The posterior ligament is a thick band which passes obliquely upwards from the back of the head of the fibula to the back of the lateral condyle of the tibia. It is covered by the tendon of the popliteus. The joint is further strengthened laterally by the cord-like fibular collateral ligament of the knee joint and by the insertion of the tendon of biceps femoris, which is split in two by the insertion of the ligament. The synovium of the superior tibio-fibular joint is usually independent of that of the knee joint but sometimes communicates with it indirectly by means of a small deficiency of the posterior ligament whereby the synovial membrane is continuous with the synovial sheath of the tendon of popliteus.

The association of dislocation of the head of the fibula and inversion sprain of the ankle joint is due to the mechanism of injury causing this dislocation. The mechanism consists of a fall on the limb with the foot inverted and the knee flexed; at the same time there is a lateral twisting motion of the trunk which is transmitted

to the tibia, causing the head of the fibula to be sprung away from the tibia.

The dislocation may occur anteriorly, posteriorly or upwards. The anterior dislocation must also be displaced laterally since the head of the fibula lies behind the lateral condyle of the tibia. The most commonly reported is the anterior dislocation. Posterior dislocations are serious in that they may be associated with chronic dislocation and peroneal nerve palsy. The upward dislocation is extremely rare and is always associated with injuries around the ankle joint.

The symptoms consist of pain localized to the head of the fibula. This pain is aggravated by movement of the joint. Movements of the joint are limited by pain. In the anterior dislocation the head of the fibula is prominent. Usually the patient is unable to walk. In every case the ankle should be carefully examined for evidence of inversion sprain or tear of the external lateral ligament of the ankle joint. The X-ray clearly demonstrates the dislocation.

Reduction is said to be accomplished quite readily by direct pressure on the dislocated head. This should be applied with the knee flexed to relax the biceps femoris and with the ankle inverted. Classically a loud snapping sound accompanies reduction. Most authors advise immobilization for 4-6 weeks in a plaster cast. Some cases, however, have been completely symptom-free immediately after reduction without immobilization. If reduction is stable lengthy immobilization may be unnecessary and can be dispensed with after 10 days.

CASE REPORT

The patient, a young male, L.L., in his early twenties, sustained an injury to his right knee whilst playing football. He was unable to relate the exact mechanism of injury. He complained of pain localized to the head of the fibula and of a prominent swelling over that site. Full flexion and extension of the right knee-joint were limited by pain. There was no effusion into the right knee but the patient was unable to walk. He complained also of severe pain over the external lateral ligament of the right ankle-joint.

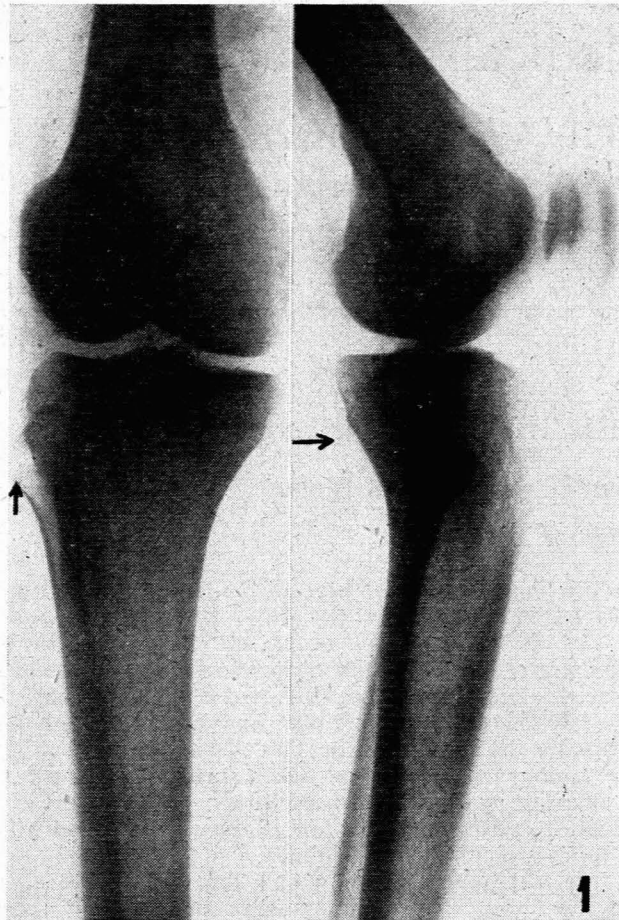


Fig. 1. Pointers show site of dislocation.

X-ray examination showed an anterior dislocation of the head of the fibula.

He was given a general anaesthetic and strenuous efforts were made to reduce the dislocation, keeping the knee flexed and the ankle inverted. These proved unsuccessful and it was therefore decided to carry out reduction by open operation. The peroneal nerve was isolated and retracted with a tape. The articular facet on the head of the fibula and the corresponding facet on the lateral condyle of the tibia were then displayed. After some difficult manoeuvring the head of the fibula was reduced. The reduction was very stable and there was no tendency to re-dislocation. The wound was closed and the knee immobilized on a back-splint for 10 days. Quadriceps drill was carried out hourly and on the 10th post-operation day the sutures were removed and flexion and extension instituted. Weight-bearing without support was allowed from the 14th day. One week later the patient had full free painless movements of the knee joint. When examined 6 weeks after the accident he was found to have made a complete recovery and had no disability.

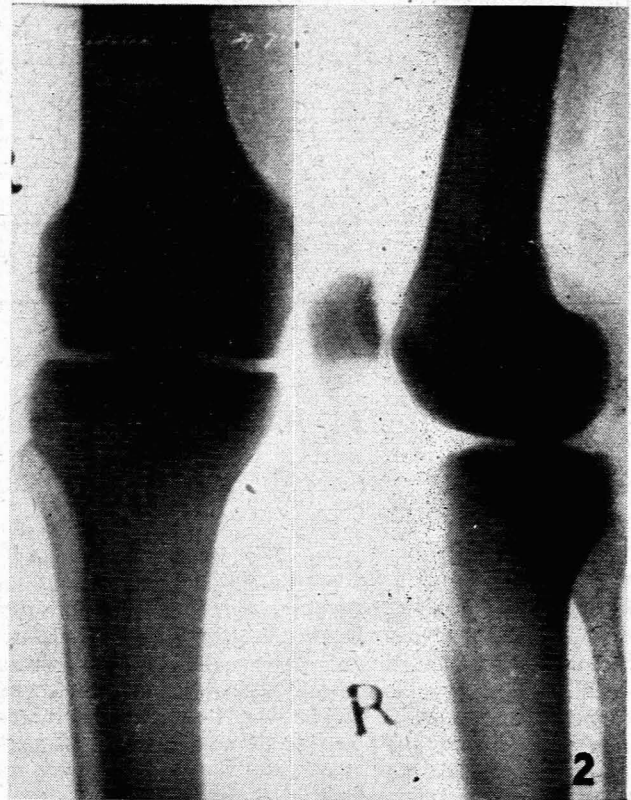


Fig. 2. After reduction.

SUMMARY

A case is presented of isolated dislocation of the head of the fibula. The anatomy of the superior tibio-fibular joint is discussed, and the rarity of incidence of the condition. The types of dislocation are described together with the mechanism of production, clinical signs and treatment.

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