ISOLATED ANTERIOR DISLOCATION OF THE PROXIMAL TIBIOFIBULAR JOINT

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Three cases of isolated anterior dislocation in the proximal tibiofibular joint are presented. The common aetiologial feature was that injury occurred with the knee in hyperflexion and the foot inverted and extended. The symptoms of locking, pain and giving way may lead to an erroneous diagnosis of meniscal injury. Early diagnosis in the acute case enabled easy reduction. In the inveterate cases, resection of the head of the fibula gave complete relief of symptoms.

Isolated anterior dislocation of the proximal tibiofibular joint has rarely been reported, and may, therefore, receive too little attention. In the literature, dislocations in this joint have been classified as anterior, superior and posterior, and as subluxations (Ogden 1974).

A distinction has to be made between anterior dislocations and the other varieties, as the aetiology, treatment, and complications are different. Anterior dislocations are more common than posterior; superior ones are uncommon and never occur in isolation (Lyle 1925).

In the course of five months three cases of isolated anterior dislocations, demonstrating different stages of the same injury, were treated in the Department of Orthopaedic Surgery, Central Hospital, Naestved, Denmark.

CASE REPORTS

Case 1. A 17-year-old male motorcyclist sustained a hyperflexion injury of the right knee as the result of a road traffic accident. He experienced immediate pain on the lateral aspect of the knee and was unable to bear weight.

Clinical and radiological investigations disclosed a two-centimetre anterior dislocation of the fibular head which was distinctly tender on palpation (Figs 1 and 2). There was a slight extension defect in the knee which was otherwise of normal mobility and stability. There was no peroneal palsy. On the same day, closed reduction was performed, under general anaesthesia, by forceful pressure upon the fibula with the knee in 90 degrees of flexion (Figs 3 and 4).

After one week in a plaster cast and three weeks with an elastic bandage with progressive increase in weight-bearing, the patient was free of symptoms.

Case 2. A 25-year-old man had been injured in a ball game six years before referral to hospital. He stated that he fell, landing on his left leg with the knee in maximal flexion. Since then he had suffered uncharacteristic locking episodes followed by pain laterally in the knee, which latterly had been increasing in severity.

Physical examination revealed prominence of the fibular head and an audible "pop" laterally on medial rotation of the flexed knee. There was definite tenderness at the head of the fibula, but there was no atrophy of the quadriceps or effusion in the knee. Operation showed the head of the fibula to be anteriorly displaced and movable; it was resected.

The patient developed a transient peroneal palsy but was otherwise free of symptoms and was still symptom-free 16 months later.

Case 3. A 31-year-old football player complained of three years of trouble from his left knee after a fall when jumping a low hurdle, landing on his plantar flexed foot but with his knee flexed. Since then, he had had periodical symptoms of uncharacteristic locking episodes and a sensation of slipping laterally. The joint gave way on weight-bearing. He had undergone five operations in the course of two and a half years and was even seen by a psychiatrist. The medial as well as the lateral meniscus had been removed, as had parts of the fat pad, the synovial fold and granuloma caused by the sutures. The symptoms had persisted despite the operations.

At physical examination the contours of the knee were normal, but there was laxity of the proximal tibiofibular joint which was definitely tender. At the subsequent resection of the head of the fibula the diagnosis was confirmed, as the head could be displaced one centimetre anteriorly. After operation the symptoms disappeared and the patient was still symptom-free 12 months later.

DISCUSSION

Anterior dislocations in the proximal tibiofibular joint are usually due to hyperflexion injuries, with the foot inverted and extended, so that the fibular head is pressed anteriorly and laterally. This injury is often observed in connection with parachute jumps and athletic activities, but also in road traffic accidents (Lord and Coutts 1944; Christensen 1966; Parks and Zelko 1973).

A common feature of the present cases was the mechanism of trauma. The injuries were diagnosed after differing periods of delay, and the case histories illustrate the importance of an early diagnosis.

An acute dislocation is easy to reduce, and the subsequent treatment is brief. In Case 1 the treatment...
after reduction consisted of a short-term plaster cast followed by an elastic bandage (Parks and Zelko 1973); but early treatment may be restricted to merely an elastic bandage and mobilisation with increasing weight-bearing (Lord and Coutts 1944). If the closed reduction is not stable, a temporary Kirschner wire may be used (Parks and Zelko 1973).

In Case 2 the patient had had symptoms from the very beginning, but these were so mild that he did not get referred until six years after the injury. The clinical findings were evident, and resection of the fibular head relieved his symptoms.

Case 3 illustrates the consequences of misinterpreting the symptoms. Several surgeons had, independently of each other, interpreted the condition as meniscal, and unnecessary arthrotomies had consequently been performed.

The symptoms in the last two cases were identical: uncharacteristic episodes of locking with an audible “pop” laterally in the knee; diffuse pain; a sensation of the knee giving way; and prominence or laxity of the fibular head and distinct tenderness at the site (Sijbrandij 1978). Radiography may confirm the diagnosis.

As seen in Case 3, anterior dislocations in the proximal tibiofibular joint may simulate meniscal injury, but the symptoms differ, there being neither intra-articular effusion nor atrophy of the quadriceps, and the episodes of locking are uncharacteristic, brief and spontaneously reducible.

In the last two cases, both diagnosed late, the fibular head was resected as closed reduction was no longer possible. However, others (Dennis and Rutledge 1958) have used open reduction and internal fixation. It has been reported that internal fixation may entail ankylosis in the proximal tibiofibular joint and osteoarthritis in the talocrural joint. In addition, the osteosynthesis material may work loose or break during movements in the joint (Dennis and Rutledge 1958; Ogden 1974).

Isolated anterior dislocation in the proximal tibiofibular joint differs from superior as well as posterior dislocations both in aetiology and symptoms, and it may be misinterpreted as meniscal injury.

REFERENCES


