RECURRENT DISLOCATION OF THE SUPERIOR TIBIO-FIBULAR JOINT
A Diagnostic Pitfall in Knee Joint Derangement

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The adolescent girl is notoriously an elusive and unreliable witness, particularly in the context of instability of the knee. When one attempts to analyse her story of knee trouble the answers so often are vague and unhelpful. "My knee gives way"; "my knee locks in bed"; "there is a click somewhere in front"; "I get a swelling which disappears" are familiar remarks. In spite of the most meticulous examination no accurate diagnosis is made and, worse, the surgeon may be persuaded into a half-hearted diagnosis and indeed may operate with unfortunate consequences.

Among the numerous lesions that can cause confusion the admittedly rare entity of recurrent superior tibio-fibular joint dislocation in the young has not been given sufficient prominence. Bristow (1925) reported that in seventy-five operations on the knee thirteen normal menisci were found and the findings in seven other patients were doubtful. Again Parry Nichols and Lewis (1958), reviewing 1,723 cases of meniscectomy, showed a high incidence of so-called loose and normal cartilages in young servicemen. Smillie (1962) stated that in 4,500 meniscectomy operations errors in diagnosis amounted to 183. It is interesting that in a list of sixteen lesions that can lead to misdiagnosis, recurrent dislocation of the fibular head is not mentioned. The following case reports are therefore of some interest.

Case 1—In 1963 a fifteen-year-old girl presented with a vague history of a twist to the right knee eight months previously, after which she experienced episodes of pain in front of the joint with ill-defined weakness. Her family doctor offered a diagnosis of Osgood-Schlatter's disease. Clinically, however, no abnormality was found except ill-defined patello-femoral
tenderness. Radiographs including tunnel and skyline views were negative and a tentative diagnosis of chondromalacia patellae was made. During her subsequent visits extending over six months a variety of diagnoses including early osteochondritis dissecans, a lateral cartilage lesion and a subluxating patella were mentioned. Conservative management was pursued on the grounds of insecure diagnosis. On the seventh month the knee again gave way, with the appearance of a transient lump on the outer side; but again no positive diagnosis was made. Finally the joint locked while the child was in bed, there was associated pain on the lateral side, and the incident was followed by minor bruising anterior to the right fibular head. Diagnosis was thus established, in that the fibular head could be displaced forwards and laterally with ease, and the movement was accompanied by pain. Radiographs confirmed displacement (Figs. 1 and 2). The left fibular head was also hypermobile whereas the inferior tibio-fibular joints were stable clinically and radiologically.

The parents were advised that the hypermobile state would resolve with the onset of maturity. This proved to be the case. She can now take part in games and dancing with no disability.

Case 2—In 1964 a girl of sixteen years presented with a few months' history of intermittent locking of the left knee associated with a transient swelling somewhere on the front and outer side of the joint. The incidents were usually triggered off on getting up from the knee flexed position. A click was heard on a few occasions; there was no history of injury. Most episodes were not painful but they caused parental worry and an operation to cure "the cartilage trouble" was suggested by the referring doctor.

On examination she was well built with no undue generalised joint laxity. Thorough examination revealed no incriminating signs referable to the knee joint or quadriceps mechanism. In the light of previous experience, however, it was found easy to dislocate the left fibular head forwards with the knee partially flexed and the biceps tendon relaxed (Figs. 3 and 4). The girl responded with the remark: "The swelling has come back, that is what happens." The right fibular head could also be displaced forwards but to a less degree. Radiographs of the superior tibio-fibular joint demonstrated the lesion clearly (Figs. 5 to 8). The ankles were normal clinically and radiologically. Operative treatment was not advised but she was told to avoid hyperflexion of the knee, to persist with games and to wear a supportive bandage while playing tennis. Over the past three years disability has steadily decreased; indeed she now leads an active university life.

Other cases—Lately two other cases have appeared in my clinics but are too recent to report in detail because of the short follow-up period.

DISCUSSION

There are many reports of acute traumatic dislocation of the superior tibio-fibular joint in the adult, nearly always involving fairly severe deforming forces. Nélaton (1874) described a single case. Lyle (1925) presented a comprehensive review of the injury. Macklin, Hartmann and Peterson (1940) described forty cases. Lord and Coutts (1944) reported the injury in parachutists. Vitt (1948), Delaney, MacDonald and MacNab (1956) and Stratford (1959) also discussed this traumatic condition. Harrison and Hindenach (1959) described five cases occurring in adults from moderate trauma. The lesion is a full scale dislocation of the fibular head necessitating formal reduction; there is disruption of the capsule and surrounding soft tissues and, in consequence, the diagnosis is easy because of the persisting swelling at the fibular head. Anterior dislocation is thought to be twice as common as posterior displacement, the latter occasionally being associated with common peroneal nerve involvement.

The lesion under discussion in this paper occurs in the young patient—usually before the age of eighteen years. The episode is fleeting and can occur without injury; moreover there is often little pain. The quadriceps is not wasted, there is no permanent swelling or effusion.
Case 2—Anterior (Fig. 3) and lateral (Fig. 4) views of the knee showing the fibular head dislocated forwards.

Case 2—Anterior-posterior radiographs of the fibular head in the reduced (Fig. 5) and in the dislocated positions (Fig. 6).

Case 2—Lateral views showing the head of the fibula in its normal position (Fig. 7) and anteriorly dislocated (Fig. 8).
to guide the clinician, and, as noted, the patient, usually a girl, can offer little help towards the localisation of symptoms. The tendency is towards improvement.

The purpose of this paper is to emphasise that this condition, although rare, should always be in the mind of the surgeon during examination of the young knee joint. Early diagnosis will save much in the way of family worry and furthermore avoid unnecessary and possibly mutilating surgery.

SUMMARY
1. Two patients with recurrent dislocation of the head of the fibula are described.
2. The difficulties in diagnosis are discussed.

REFERENCES