We present a case of superior dislocation of the patella trapped by interlocked osteophytes. Unlike previous reports, in which the mechanism resulted from a blow to the inferior pole, it is postulated that increased load on the extensor mechanism, combined with patella alta and patellofemoral osteophytes, caused locking of the knee in extension.

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A 43-year-old tunnel worker presented with his left knee locked in extension. He had suffered a sudden severe pain in the anterior knee while lifting a heavy load. Although he could bear weight and raise the straight leg against gravity, he was unable to flex the knee. Previously, he had been a professional rugby league player and had undergone a left medial meniscectomy 19 years earlier.

A lateral radiograph showed degenerative changes in the femorotibial articulation, and the patella dislocated superiorly. Inferior patellar and anterosuperior femoral condylar osteophytes were interlocked (Fig. 1).

Under general anaesthesia, with the hip flexed and the quadriceps relaxed, the patella was reduced by upward pressure on the inferior pole. At hyperextension it was possible to reproduce the locking of the osteophytes. After these manipulations, the knee was opened through a medial parapatellar incision and the osteophytes were removed. The extensor mechanism was intact and the knee was able to move freely once more.

After reduction, lateral radiographs of both knees at 30° flexion showed patella alta with the lower border of the patella above Blumensaat’s line, an Insall-Salvati index >1.2 and a Blackburne and Peel index >1.0.1 Full weight-bearing was encouraged immediately without splintage. After six weeks, he had a full range of knee movement without pain.

Discussion

A knee is usually described as being ‘locked’ when full extension cannot be attained because of mechanical obstruction.2 Most dislocations of the patella are to the lateral side, but vertical and horizontal dislocations into the intra-articular space of the femur and tibia have been described.3 Superior dislocation of the patella, in which it has rotated in the sagittal plane to lie horizontally at the level of the suprapatellar pouch, without rupture of the patellar ligament, is rare. Recurrence is an indication for surgical excision of the interlocking osteophytes.4

Bartlett, Gilula and Murphy5 described the mechanism of superior dislocation from a posteriorly directed blow to the inferior pole of the patella. It can be seen that the radiographs of their patient also show degenerative changes in the knee with patella alta. In our case, there was no blow but a considerable load was applied by the extensor mechanism of the knee. Patella alta and the formation of osteophytes have been described in a case of superior dislocation of the patella.6

Patients with patella alta and degenerative patellofemoral changes are at risk of locked knee in extension.

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References


Fig. 1
Lateral radiograph of the knee on presentation.