

## OSTEOCHONDRITIS DISSECANS OF THE KNEE

### *A Case Report of an Unusual Lesion on the Lateral Femoral Condyle*

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*A case of osteochondritis dissecans of the knee is described in which the site of the lesion, on the supero-medial aspect of the lateral femoral condyle, is unique. This case supports the theory that direct recurrent minor trauma causes osteochondral fractures which remain ununited producing the characteristic lesion.*

*Key words:* osteochondritis dissecans; lateral condyle of femur

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Osteochondritis dissecans is found most commonly in the knee and the classical site lies on the medial femoral condyle. However, a small percentage of lesions are found either on the infero-central or anterior aspects of the lateral femoral condyle (Green 1966, Aichroth 1971, Scott & Stevenson 1971, Lindholm 1974, Lindholm & Pylkkänen 1974). A lesion on the supero-medial aspect of the lateral femoral condyle has not been described before in the literature.

### CASE REPORT

A 17-year-old male sustained a twisting injury to his right knee while playing tennis. The knee was painful on the lateral aspect and some hours later began to swell. Symptoms and signs subsided over the next few days. One month later while playing football, he had a similar episode. One month after that, while playing hockey, the knee became swollen and painful, however the swelling did not subside and for a number of days the knee was locked. He presented at the out-patient department 6 months after these episodes with a history of repeated locking and swelling in his right knee. Examination revealed tenderness over the lateral femoral condyle and a moderate effusion. Quadriceps wasting amounted to 3 cm; all other tests, in-

cluding the patellar apprehension test, were negative, X-rays revealed osteochondritis of the lateral femoral condyle with at least one loose body (Figures 1 and 2).

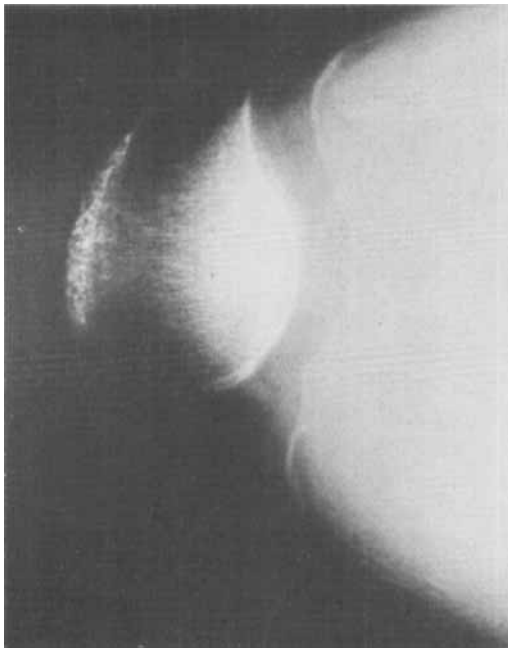
Exploration of the knee was carried out soon afterwards and the osteochondritis dissecans was found to be in a most unusual site (Figure 3). There was a large loose fragment in a crater on the supero-medial aspect of the lateral femoral condyle. Three smaller loose bodies were recovered from different parts of the joint space. The large fragment and crater were prepared and the fragment fixed in position with two Smillie pins (Figure 4). The patient made an uneventful recovery.

### DISCUSSION

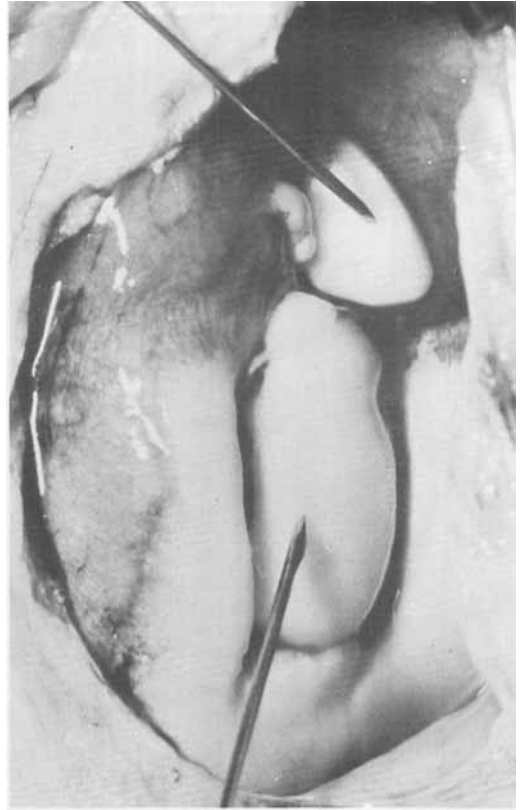
Sir James Paget (1870) was the first to describe this lesion as a "quiet necrosis"; König (1888) was the first to call it osteochondritis dissecans and both men thought the lesion was the end result of trauma. Many theories have been discussed since that time. An ischaemic theory was advocated by Reiger (1920), Axhausen (1922) and Watson-Jones (1952). However, the demonstration of a rich anastomotic blood supply in the femoral condyles by Rogers & Gladstone (1950) made a vascular lesion secondary



*Figure 1. X-ray of the knee showing osteochondritis dissecans of the lateral femoral condyle and a loose body in the suprapatellar pouch.*



*Figure 2. Sky-line X-ray which shows osteochondritis dissecans on the lateral condyle.*



*Figure 3. Photograph of lateral condyle showing the area of osteochondritis dissecans in a most unusual site and two loose bodies in the suprapatellar pouch.*

to embolic phenomena unlikely. Trauma, due to impingement of the tibial spine on the femoral condyles was suggested as the cause of the lesion by Fairbank (1933) and Smillie (1960). In an excellent review Green (1966) clearly defined the difference between acute osteochondral fracture and osteochondritis dissecans. Recurrent minor trauma can cause stress fatigue in the subchondral bone and produce the features of osteochondritis dissecans. Langenskiöld (1955) produced such lesions in dogs and his work was later confirmed by Tallqvist (1962) and Aichroth (1971).

Green (1966) suggested that lesions on the lateral femoral condyle were due to trauma caused by the patella but



Figure 4. X-ray of knee postoperatively showing the fragment reduced and held with Smillie pins.

O'Donoghue (1966) stressed that patellar trauma only produced acute osteochondral fractures.

This case would suggest that the lesion in this very unusual site could have been caused by recurrent minor trauma by the patella on the lateral femoral condyle. If the patello femoral joint had been unstable then one would have expected a lesion on the lateral aspect of the condyle. This medial lesion was caused by repeated minor trauma causing repeated osteochondral fractures which remain ununited producing the characteristic histology of reparation and repair described by Chiroff & Cooke (1975).

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