Osteochondritis dissecans of the patella

12 cases followed for 4 years

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Osteochondritis dissecans of the patella in 9 patients (6 men, 3 women; mean age 19 years) was located in the median ridge and paramedial areas and was bilateral in 3 patients. All patients were initially treated conservatively with complete relief of symptoms in 5. In 7 patients fragments were excised and the crater was curetted and drilled. At follow-up after 4 (2–8) years, the patients had no restriction of activities and they had no pain.

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Osteochondritis dissecans of the patella (Hellström 1923, Moreau 1923) is rare; Schwarz et al. (1988) reported an incidence of 0.15 percent among 30,000 knee operations.

The goal of this study was to improve understanding of the etiology, diagnosis, and treatment of this uncommon condition.

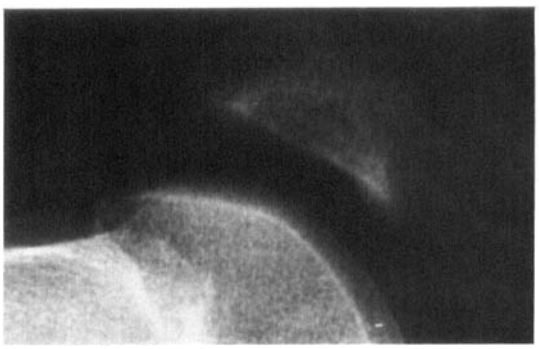
Patients and methods

In our department, 6 men and 3 women, mean age 19 (15–29) years, were diagnosed with osteochondritis dissecans of the patella; the lesion was found to be bilateral in 3 patients.

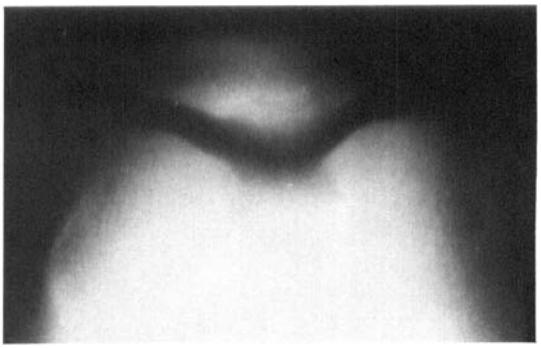
The presenting symptom in all 12 knees was pain in the patellar region of gradual onset. None of the patients had a history of major trauma to the involved knee. One gave a history of a previous twist, one complained of intermittent swelling, and another had osteochondritis dissecans of the femoral condyle of the contralateral knee with a loose body and underwent surgery 1 year before the complaints in the right knee started. There were no cases with locking incidents.

On examination, the commonest finding was patellofemoral crepitus and pain on pressing the patella against the femur. No patient had restriction of movement, ligamentous laxity, swelling, or knee effusion. All patients had anteroposterior, axial (Ficat technique), and intercondylar (Fick technique) radiographs in the lateral view (Figure 1). The osteochondritic focus appeared as an arcuate area of diminished density, a faint shadow outlining a smooth, almond-shaped piece of bone with increased density (a bell

Figure 1. Case 1. 15-year-old woman with osteochondritis dissecans of the patella.



Lateral view



Axial planigraphy showing an osteochrondral defect on the medial ridge.

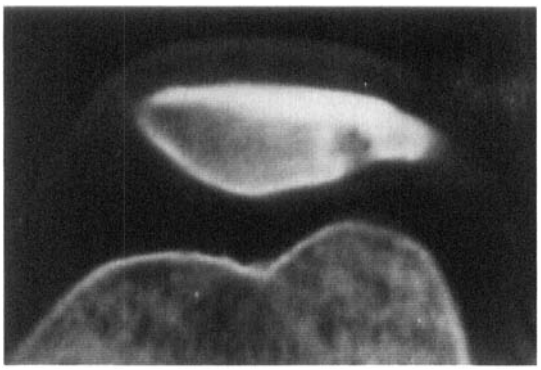


Figure 2. Case 5. 16-year-old man with CT scan showing osteochondritis dissecans of the lateral facet.

image) (Ficat 1973; Figure 2), an irregular sclerosing border on the central ridge of the patella, or a shallow and irregular depression on the articular surface with occasional presence of a loose body. The lesions were more clearly visualized by lateral tomography. CT scanning, scintigraphy (Orava et al. 1979) and nuclear magnetic resonance imaging (3 cases) were of little diagnostic value, because the lesions were seen radiographically.

Conservative measures, including physical therapy and limitation of activities were instituted in all patients; 5 patients had complete relief of symptoms. 7 lesions in 5 patients were treated surgically due to failure of conservative measures, 6 by arthrotomy and 1 arthroscopically. All patients had osteochondritic fragments on the median ridge and medial facet, still attached to the patella. The fragments were from 10 to 15 mm in diameter. The extent of the lesion was determined by probing the softened articular cartilage; this was then excised together with the attached subchondral bone. The resulting crater was curetted and drilled. The lateral patellar retinaculum was released as we usually do in knee surgery, and the synovial sheath was biopsied. No attempt was made to reattach the osteochondral fragment. Postoperatively, the leg was immobilized with a pressure dressing for 2 days and gradual physical therapy was initiated thereafter.

On histological examination, calcium deposition was seen in the sequestra. No abnormalities were found in the synovial membrane.

Results

After a mean follow-up period of 4 (2–8) years, all knees were graded as excellent; the patients had no restriction of activities and they had no pain. 2 patients had patellofemoral crepitus; in 1, arthrography 2 years after the operation showed tissue repair of the surgical bed.

Discussion

In this series, the average age of 19 years at onset was somewhat higher than that reported by most authors, men were affected more frequently than women, and the lesion was bilateral in one third of the patients, which is more frequent than reported in the literature (Kleinberg 1949, Hay 1950, Roberts and Hugues 1950, Burns and Kelly 1959, Redlich 1969, Magiera 1970, Valette 1971, Edwards and Bentley 1977, Pinto 1978, Smillie 1981, Dejour et al. 1983, Desai et al. 1987, Schwarz et al. 1988, Gandolfi and Agueci 1990).

The etiology of osteochondritis dissecans remains unknown. Although the majority of authors favor a traumatic cause (Rideout et al. 1966, Stougaard 1974, Edwards and Bentley 1977, Pattin et al. 1984, Schwarz et al. 1988), none of our patients had a history of trauma associated with the lesion. None of the patients had knee instability. Heywood (1961), reviewing 106 cases of recurrent dislocation of the patella, found only 1 case of osteochondritis dissecans patellae.

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