Stress fracture of the patella

A case report

Guy Piétu and Philippe Hauet

Emergency Service, Orthopaedic Trauma Unit, Hôtel Dieu, C.H.U. de Nantes, F-44035 Nantes Cedex, France
Tel +33 40-08 38 18. Fax -08 46 54
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A 16-year-old male basket-ball player suffered from anterior right knee pain for 2 months after intensive ski practice. His pain increased while playing and resolved during rest. While running for a jump, he felt a sudden sharp pain and a pop in his right knee. Plain radiographs taken on the same day revealed a transverse fracture of the distal third of the patella with slight sclerosis along the edges of both fragments and 2 mm displacement. A bone scan showed local increased uptake and slight hyperactivity in the other knee. The roentgenograms of the contralateral asymptomatic knee revealed a stress fracture of the upper tibia as well as osteochondritis of the medial femoral condyle.

The patient used a removable splint full-time for 3 weeks, and resumed activity gradually over the next month. At that time, he had no pain in both knees, a full range of motion and radiographs showed bony healing of the patellar fracture. After a further 6 months, there was complete fusion.

At the 1-year follow-up, the patient had no knee problems and had recovered his previous level as a basket-ball player.

Discussion

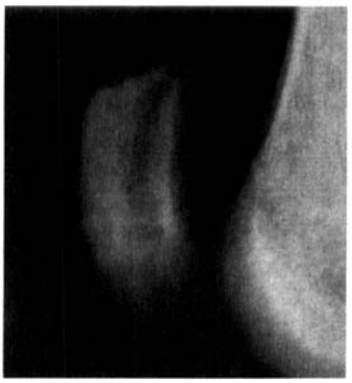
Stress fracture of the patella is rare. It was first reported by Müller (1943) in military recruits in World War II and later by Devas (1960) in runners. They described both longitudinal and transverse fractures.

There are 2 mechanisms in stress fracture of the patella. Some occur due to sudden forceful contraction in the process of jumping or kicking, without evidence of previous submaximal loads and, especially, no evidence of previous pain (Sugiura et al 1977, Hanel and Burdge 1981). Others, like ours, truly fulfil the criterion of stress fracture with previous long-standing anterior knee pain, absence of an explosive burst of the quadriceps muscle and, after some time, bony sclerosis on radiographs (Devas 1960, Sugiura et al. 1977, Dickason and Fox 1982, Jerosch et al. 1989, Rockett and Freeman 1990, Teitz and Harrington 1992).

If there is no displacement, cast immobilization appears to be the best treatment (Hanel and Burdge 1981, Dickason and Fox 1982, Jerosch et al. 1989, Teitz and Harrington 1992). Functional therapy with-

At presentation with minimal displacement at the fracture site, as well as sclerosis along the edges of the fragments.

At 6 weeks.



At 6 months. Healed fracture.

out cast or splint, as suggested by Sugiura et al. (1977), may result in delayed separation of the fragments (Devas 1960, Oginni 1993). Osteosynthesis should be considered in case of displacement (Hanel and Burdge 1981, Jerosch et al. 1989, Teitz and Harrington 1992).

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