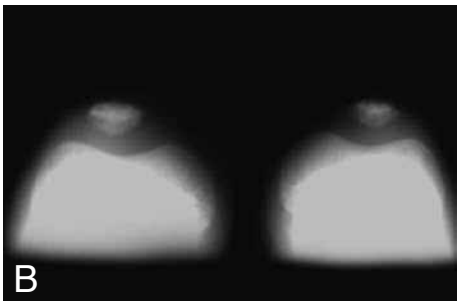
JBR–BTR, 2012, 95: 106.

IMAGES IN CLINICAL RADIOLOGY



Kohler's disease of the patella

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An eight-year-old boy was referred to the trauma clinic with fracture of the patella. The boy had trivial trauma to the left knee when he fell down from a writing desk while in school.

The boy walked in to our clinic. There was no effusion in the knee and the knee was not tender. He had full and pain-free range of movements of the knees.

Radiographs of the left knee were available with the patient from the referring institution. This showed a hypoplastic patella with fragmentation and sclerosis (Fig. A).

Antero posterior, lateral and skyline views of both knees were done, which showed similar radiologic features in both knees (Fig. B).

His blood parameters, including sickling tests were done and found normal. No further radiological investigations were planned.

Comment

There are many incidences of out-patient clinic visits for anterior knee pain, and in some the patella is thought to be the origin. Osteochondrosis is an abnormal process in the secondary ossification centre, thought to be due to repeated trauma, at the time of growth spurt. One of the reported causes of anterior knee pain in children between 5 and 9 years of age is osteochondrosis of the patella, otherwise known as Kohler's disease. This affects the primary ossification centre of the patella. Osteochondrosis of the entire patella is thought to be rare.

Patella is affected by two types of osteochondrosis, one affecting the entire ossification centres of the patella, and those affecting the secondary ossification centre. The commonest osteochondrosis in children is the Sinding-Larsen-Johansson disease which affects the child between 9 and 11 years, and is due to the affection of the secondary ossification centre in the lower pole.

In the first 4 to 5 years of age, the patella is an expanding mass of cartilage, the shape of which is comparable to the final shape of the adult patella.

Between 4-6 years centrally located multifocal ossification centres appear which rapidly coalesce. The expanding ossification centre may become irregular giving the appearance of fragmentation in radiographs.

As early as 1929 Moffat described Kohler's disease as a disturbance of normal development of bone, occurring during the stage of ossification, and commented on the original paper by Kohler where he described abnormality of the patella in his case report on "isolated disease of the scaphoid".

There is fragmentation and sclerosis of the patella in the plain films.

It is a condition of sinister significance and doesn't require further investigations as the clinical course is that of a self limiting disease. Irregular ossification, fragmentation and sclerosis of the patella could be a normal developmental variation, or this could be an idiopathic self-limited disturbance of enchondral ossification in which rapid growth spurt is present. Some authors consider this as an overuse syndrome. In some children the expanding ossification centre is often irregular, which is a normal variant and diagnosis of osteochondrosis should be made with caution. It is a self limiting pathology with a very benign course and when seen incidentally in the radiographs, the patella is expected to be normal in around 2 years. If at all symptomatic, limitation of physical activity is all that required.

Reference

1. Pinar H., Gul O., Boya H., Ozcan C., Ozcan O.: Osteochondrosis of the primary centre of the patella (Kohler's disease of the patella) report of three cases. *Knee Surg Sports Traumatol Arthrosc*, 2002, 10: 141-143.

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