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A Multipartite Patella

Seyyed-Mohammad Qoreishi[1], Ehsan Hakimi[2], Reza Minaei Noshahr[1], Amir Bisadi[1], Kourosh Kharkan Ghamsari[3] and Seyyed-Mohsen Hosseininejad[2, 3*]

[1]Assistant Professor of Orthopedic Surgery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

[2]Bone, Joint and Related Tissue Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

[3]Golestan Rheumatology Research Center, Golestan University of Medical Sciences, Gorgan, Iran

[*]**Corresponding author:** Hosseininejad SM, Orthopedic Department, School of Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Tel: 01732430310; E-mail: hosseininejad.s.mohsen@gmail.com

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Introduction

A 47-year-old male presented to our University knee clinic with complaint of pain in his right knee for 2 weeks. Pain was subtle and dull aching primarily. Severity of pain increased with time and worsened on physical activities such as running, climbing stairs, and decreased with rest and analgesic. There was no history of recent trauma. On physical examination, his gait was normal with mild tenderness over the superolateral aspect of patella; also, there was no joint effusion, swelling nor crepitations, and clicking. Range of motion was normal. Quadriceps strength was normal. Ligamentous and menisci clinical tests were unremarkable. Anteroposterior and lateral radiographs the knees were obtained (FIG. 1). Anteroposterior and lateral radiographs of the knee (Figures A) showed radiolucent line between the fragments of patella and the fragments margins seem to be smooth and sclerotic. The diagnosis is multipartite patella of right knee which is a clinico-radiological diagnosis.

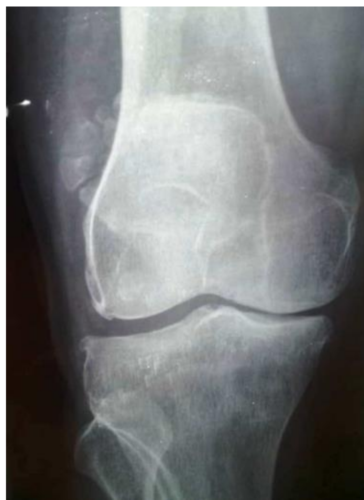

FIG. 1. **Anteroposterior view of multipartite patella in a 47 year old man.**

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We managed the patient conservatively with rest, knee brace and non-steroidal anti-inflammatory drugs. We also advised quadriceps and hamstrings stretching exercises; strenuous activities were prohibited for 2 weeks. The symptoms subsided within 6 weeks of treatment; our patient gradually regained his daily activities.

Discussion

Partite patella is an asymptomatic condition diagnosed incidentally. The etiology is the fusion failure of accessory ossific nucleus of patella. This accessory ossific center appears by 12 years of age. Normal patella typically develops from a single ossification nucleus appearing between 3-5 years of age and ossified from centre to periphery. Failure of fusion in these ossification centres might give rise to bipartite, tripartite or multipartite patella [1-3].

Multipartite patella gets symptomatic following direct trauma, overuse, or strenuous athletic activity etc. Partite patella is classified into four types, including superolateral bipartite, lateral bipartite, superolateral and lateral tripartite, superolateral tripartite.

Traumatic and stress fracture of patellar should always be well thought-out in differential diagnosis of partite patella. These developmental anomalies can be differentiated from traumatic fractures by radiography, computed tomography, magnetic resonance imaging, or isotope bone scanning. Magnetic resonance imaging is the investigation of choice in doubtful cases. Traumatic fractures could be differentiated on the basis of fracture margin which are more ragged but in non-traumatic fractures, the accessory ossific nucleus possibly have sclerotic, smooths margins [1,4].

Treatment options for symptomatic multipartite patella vary from conservative to surgical treatment. Conservatively, rest, Non-steroidal anti-inflammatory drugs, patellar braces, quadriceps and hamstrings stretching exercises, and sometimes local steroid infiltration may be advised.Our present case responded well to conservative treatment. Nowadays, commonly performed surgical procedure is arthroscopic excision of the painful fragment [3]. Other surgical options are vastus lateralis release, lateral retinacular release, and internal fixation with /without bone grafting [2-4].

In conclusion, our case is unique in terms of x-ray view and presentation. We must consider the partite patella in differential diagnosis of anterior knee pain in adolescence.

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