

What Can Mimic a Patellar Fracture?

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Abstract

Bipartite patella is a patella with an unfused accessory ossification center, typically at the superolateral portion of the patella, it is a congenital knee condition considered as a normal variant of the patella, it is often an incidental finding on radiographs as the condition is usually asymptomatic. On radiographic examination it appears as an unfused patella most commonly at the superolateral pole, mimicking a patellar fracture.

Keywords: *Bipartite Patella; Radiograph; Anterior Knee Pain*

Introduction

Bipartite patella is a distinct entity characterized by the presence of an unfused accessory ossification center. It is a normal variant of the patella which is often confused with patella fractures.

The clinical context and radiographic characteristics allow for the recognition of this differential diagnosis from patellar fractures.

Case Report

We present a case of a 19-year-old male patient without significant medical history and no reported trauma. The patient complained of anterior left knee pain without functional impairment. Clinical examination revealed tenderness upon palpation of the anterior aspect of the left knee, with no additional associated signs. The standard knee radiograph (Figure) disclosed an irregular accessory fragment located at the superolateral pole of the patella, devoid of sclerotic changes or soft tissue swelling.

Discussion

The patella is the largest sesamoid bone in human body which plays an important role in knee biomechanics [1]. Often confused with patella fractures, bipartite patella is a patella with an unfused accessory ossification center, typically at the superolateral portion of the patella [2]. It is a congenital knee condition considered as a normal variant of the patella, which is caused by the failure of the patella

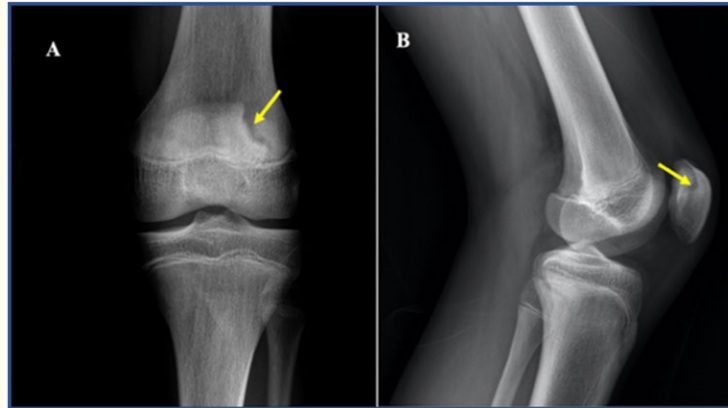


Figure: Knee radiographs on frontal antero-posterior (A) and lateral (B) projections showing a left accessory fragment at the supero-lateral pole of the patella corresponding to a bipartite patella type III. The accessory fragment is irregular in shape. Note the smooth margin without sclerotic changes or soft tissue swelling.

to fuse during growth. It occurs in 1 to 2% of the population, and can be bilateral in about 43% of cases. It seems to be more common in males than in females [3]. It is often an incidental finding on radiographs as the condition is usually asymptomatic. It may be symptomatic in 2% of cases and cause anterior knee pain, especially after trauma, sports injury, or overuse [2].

On radiographic examination it appears as an unfused patella most commonly at the superolateral pole, mimicking a patellar fracture except that the context of discovery is often non-traumatic.

The location at the superolateral portion of the patella, smooth margin without sclerotic changes, and lack of joint or soft tissue effusion help to confirm that this is not a fracture.

Saube [4] classified bipartite patella into three types depending on the localization of the unfused fragment of patella:

1. Type I: (5%), the fragment is localized in the inferior pole.
2. Type II: (20%), the fragment is localized at the lateral margin.
3. Type III: (75%), the fragment is localized at the supero-lateral portion of patella.

Medial bipartite patella is exceptional [1].

In the majority of cases, symptomatic bipartite patella improves without surgery. Surgical excision of the small fragment is recommended if conservative management fails and has been reported to give good results [5].

Conclusion

Bipartite patella is a distinctive congenital condition, is frequently asymptomatic, and discovered incidentally on standard radiographs, its radiological features can be easily mistaken for a fracture. Therefore, it necessitates recognition by the radiologist.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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