



Radiological evaluation of patellofemoral instability and possible causes of assessment errors: Letter to the editor

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Abstract

This letter to the editor is a commentary on the study titled "Radiological evaluation of patellofemoral instability and possible causes of assessment errors". There are some pertinent structural changes and radiological findings that should be considered in the setting of traumatic knee injuries, as their recognition is of paramount importance.

Key Words: Patellofemoral instability; Radiological evaluation; Sliver sign; Avulsion fractures; Osteochondral lesions; Bone oedema

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Core Tip: The radiological diagnosis of patellofemoral instability is pivotal in management as some radiological findings may necessitate surgical intervention. Therefore, image interpretation should be meticulous. Some crucial radiological findings should be considered in the setting of traumatic knee injuries.

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TO THE EDITOR

I read with interest the review article titled "Radiological evaluation of patellofemoral instability and possible causes of assessment errors" by Ormeci *et al*[1], published in the March 2022 issue of *World Journal of Methodology*. The review article focused on the

potential causes of errors that can occur when measuring some radiographic instability factors, including trochlear dysplasia, patella alta, tibial tuberosity-trochlear groove distance, and patellar tilt[1].

I would like to further discuss some pertinent structural changes and radiological findings that should be considered in the setting of traumatic knee injuries, as their recognition is of paramount importance.

On knee radiographs, a small osseous avulsion fracture on the peripheral margin of the medial patellar facet, known as the "sliver sign", may indicate avulsion of the attachment of the medial patellofemoral ligament (MPFL) and potential patellar dislocation[2].

Studies have shown that 30% of these avulsion fractures are only likely to be recognized on the dedicated patellar view; therefore, including a sunrise view in cases of traumatic knee injuries is essential[3]. Moreover, in the case of radiographic avulsion fracture, further evaluation of additional stigmata of previous patellar dislocation by magnetic resonance imaging (MRI) is recommended[4].

Generally, bone edema of the inferomedial aspect of the patella and the lateral femoral condyle and MPFL disruption indicate a recent patellar dislocation[5].

Even after reduction, the patella typically does not fully return to its normal position. MRI usually reveals patella subluxation or tilt in the majority of patients, and medial patellar chondral lesions are seen in more than two-thirds of patients[5,6]. A concave impaction of the inferomedial patella is highly specific for prior dislocation of the patella[7].

Osteochondral lesions of the lateral condyle are present in approximately 40% of patients. The presence of completely separated bone fragments that may appear as intraarticular bodies is an indication of surgery[8].

The radiological diagnosis of patellofemoral instability is pivotal in management as some radiological findings may necessitate surgical intervention. Therefore, image interpretation should be meticulous.

FOOTNOTES

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