

Case Report:

Transient Patellar Dislocation

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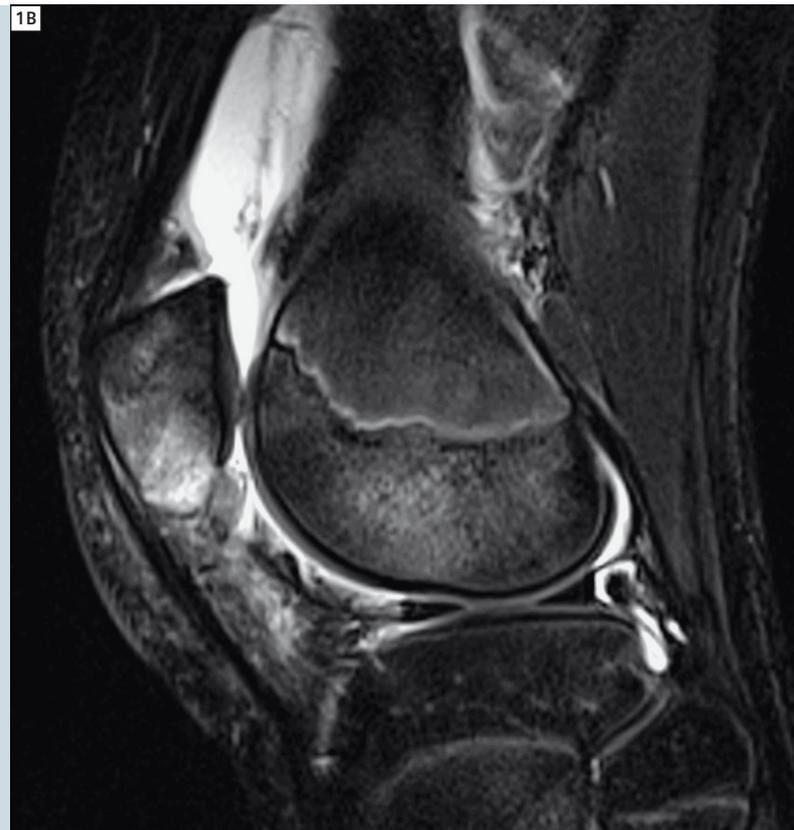
Patient history

A 13-year-old active boy with no past medical history arrived to the Emergency Room complaining of pain in the medial aspect of his left knee. He had a non-contact injury during athletics at school, and he is unsure of the position of the knee during the injury. The patient ambulates with difficulty using a single

crutch. Physical exam demonstrated mild pain during flexion with intact extension, tenderness to palpation over the medial retinaculum, and stable Lachman test and no drawer sign. A radiograph of the left knee revealed no fractures and a small suprapatellar joint effusion. The patient underwent an MRI for further evaluation.

Sequence details

Images were obtained utilizing a 3T Siemens MAGNETOM Verio scanner utilizing an 8-channel knee coil. The sequence parameters used were: Figures 1A–C: Sagittal STIR (TR/TE 5580/34 ms, scan time 2:12 min, slice thickness 3 mm). Figures 2A–B: Coronal T1 TurboIR with



1A–C Sagittal STIR images show moderate bone contusions.

Magnitude Display (TIRM) using iPAT with a factor of 2 (TR/TE/TI 5250/34/220 ms, scan time 2:12 min, slice thickness 3 mm).

Figure 3: Axial T2-weighted image (TR/TE 833/23 ms, scan time 3:45 min, slice thickness 3 mm).

Figure 4: Sagittal T2-weighted Turbo Spin Echo (TSE) using iPAT with a factor

of 2 with a base resolution of 384 (TR/TE 4880/70 ms, scan time 3:41 min, slice thickness 3 mm).

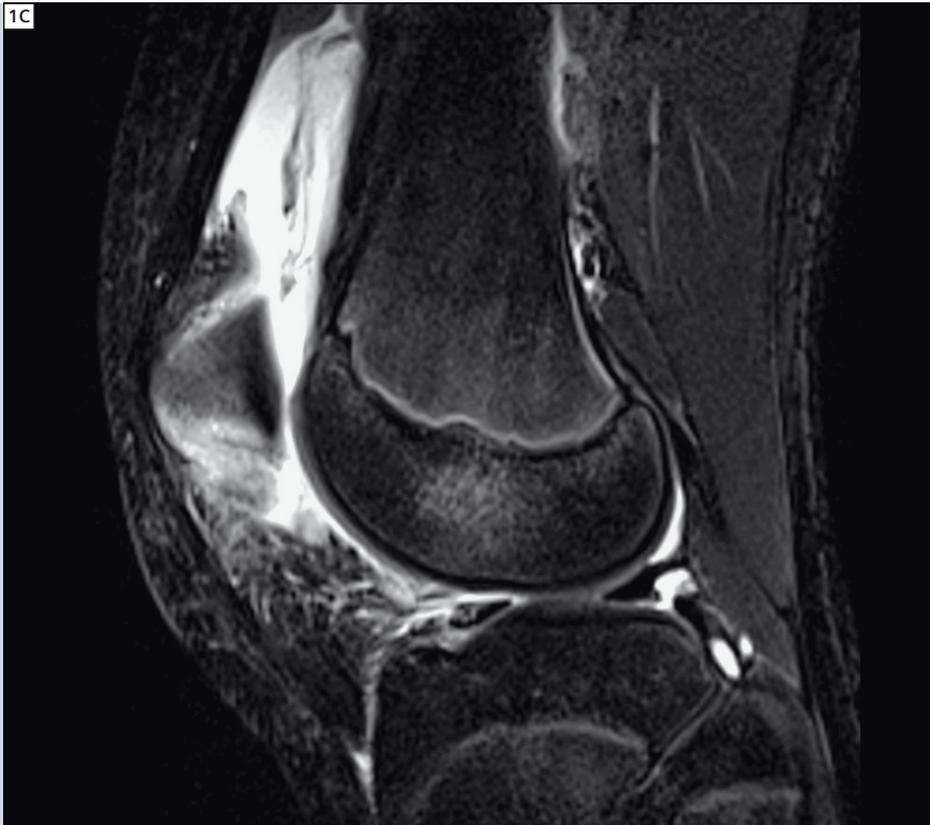
Imaging findings

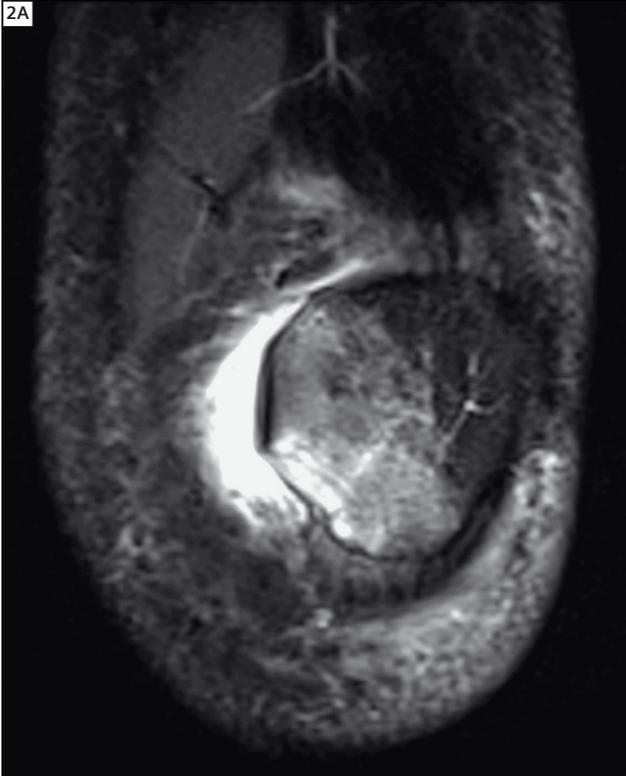
MRI of the left knee shows a partial tear of the medial patellar retinaculum at its patellar insertion (Fig. 3) and moderate bone contusions in the anterolateral

femoral condyle and medial aspect of the patella (Figs. 1A, B, and 2B). A nondisplaced fracture is present in the inferomedial pole of the patella, which extends to the articular margin (Figs. 1C and 2A). A large lipohemarthrosis is present (Fig. 4).

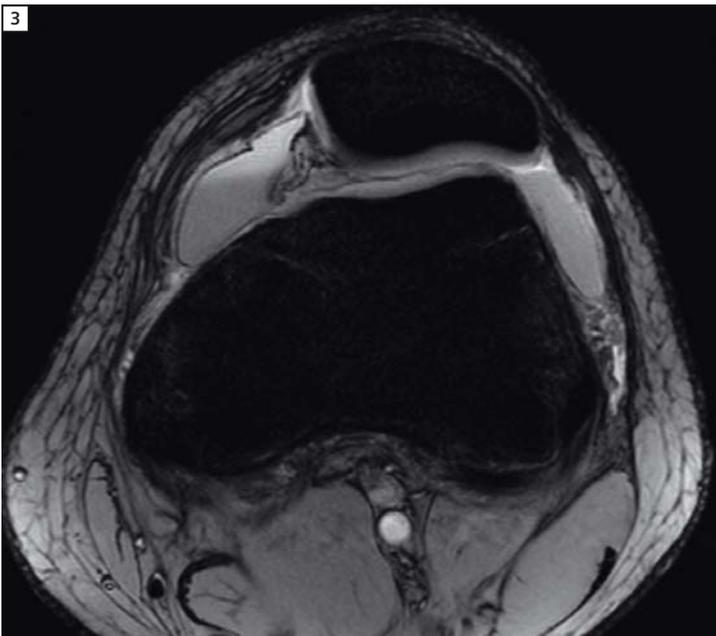
Discussion

Patellar dislocation most commonly occurs in young athletic patients. It results from rotational motions of the knee with rupture of the medial patellofemoral ligament and medial patellar retinaculum, the main stabilizers of the patella. The dislocation is usually transient, and the patella returns to its normal location immediately after the injury. When it occurs in women in the second decade of life, risk factors such as patella alta and trochlear dysplasia play an important role. MRI is the modality of choice in patellar dislocation. It clearly depicts the typical findings including medial patellofemoral ligament and medial patellar retinaculum injury, bone contusion, and joint effusion, as well as the previously mentioned risk factors (if present), all of which determine patient treatment.





2 Coronal TIRM images.



3 Axial T2-weighted image shows partial tear of the medial patellar retinaculum.



4 Sagittal T2-weighted Turbo Spin Echo (TSE) shows a large lipohemarthrosis.

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