Case presentation

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We describe three cases with a similar pathology and treatment, but with different follow-up or presentation scans. All patients suffered rupture of the anterior cruciate ligament (ACL) and underwent ligament repair using a bone-patellar tendon-bone (BPTB) graft. At follow-up, they had evidence of new injuries. In this first section of the paper, we present one of the cases. In the *Discussion* section, the other two cases—with different imaging presentation—will be described with the purpose of reviewing the topic, emphasizing the assessment by magnetic resonance imaging (MRI).

18-year-old patient with a rupture of the ACL who had been treated surgically with a BPTB graft. He suffered a new injuery with valgus collapse when playing football on an artificial turf with boots designed for real grass.

On physical examination, instability was verified by a Lachman test and pivot-shift test; therefore, a follow-up MRI was ordered.

FINDINGS AND INTERPRETATION OF IMAGING STUDIES

Sagittal MRI scans of the intercondylar fossa show diffuse signal changes. The neo-ligament cannot be identified as such. Solution of continuity can be seen proximally, and ligament fibers are placed horizontally (Figures 1-5).

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Figure 1. PD-weighted (3000/23) sagittal MRI scan of the knee. Diffuse signal change in the intercondylar fossa. The neo-ligament cannot be clearly identified.

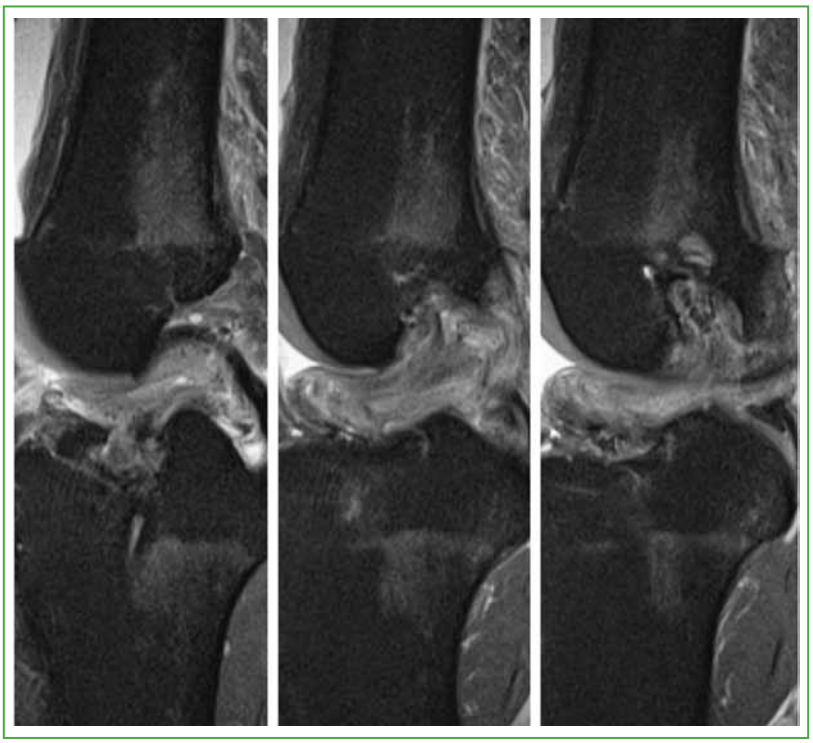

Figure 2. Fat-suppressed PD-weighted (3050/31) sagittal MRI scan of the knee. Fiber discontinuity is observed proximally, and distal graft fibers are placed horizontally.

Figure 3. Oblique sagittal T2-weighted volumetric 3D MRI with SPC pulse sequence (1200/39) and multiplanar reconstruction (MPR) connecting both tunnels of the ligament. Fiber discontinuity can be observed. The graft cannot be clearly identified.

Figure 4. Oblique coronal T2-weighted volumetric 3D MRI with SPC pulse sequence (1200/39) and multiplanar reconstruction (MPR) connecting both tunnels of the ligament. Signal changes can be seen at the neo-ligament level.

Figure 5. Fat-suppressed PD-weighted (3673/34) coronal MRI scan of the knee. Periligamentous edema (arrows) can be observed, compared to the medial collateral ligament, with ligamentous continuity (grade I injury) as secondary lesion, and contussion-resulting edema in the bone marrow of the femoral condyle (arrowheads).

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