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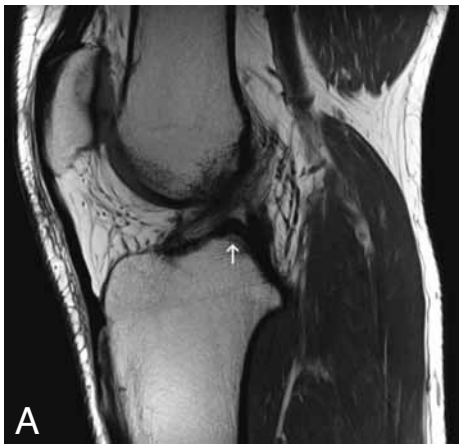
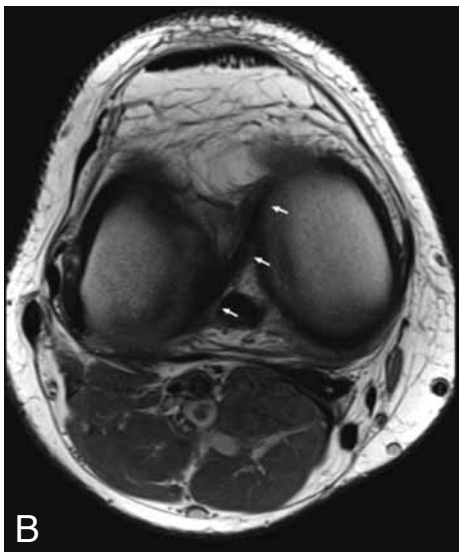
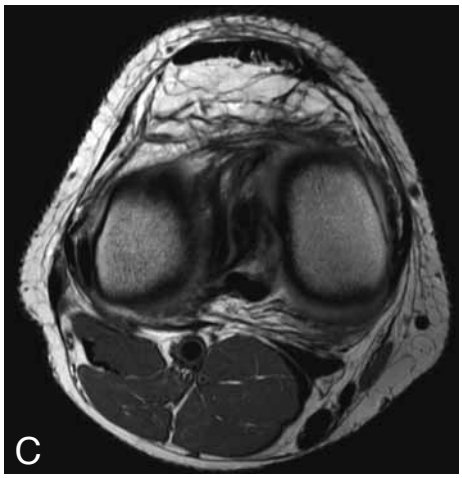
IMAGES IN CLINICAL RADIOLOGY







Oblique meniscomeniscal ligament: a potential pitfall in the diagnosis of knee injury

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A 30-year-old male soccer player presented three years after arthroscopic right anterior cruciate ligament (ACL) repair with complaints of pain and reduced functionality in the right knee. MR imaging obtained on a 3 Tesla scanner showed some fibro-inflammatory tissue on the anterior aspect of the ACL graft and a fissure centered in the femoral trochlear cartilage. Interestingly, a hypo-intense, cord-like structure was visualized running from the posterior horn of the lateral meniscus through the intercondylar notch. On coronal and sagittal images, this structure mimicked a bucket handle tear of the lateral meniscus (double posterior cruciate ligament sign, Fig. A) but if followed closely, passage towards the anterior root of the medial meniscus was noticed. This was best illustrated on the axial images. Preoperative (Fig. B) and postoperative (Fig. C) PD-weighted axial images are shown for comparison. Configuration of the lateral meniscus was normal and no part seemed missing. Some mild degeneration of the posterior horn of the lateral meniscus was present, but no tear was found. The medial meniscus was intact. These findings were compatible with an anatomical variant called the medial oblique meniscomeniscal ligament (OMML). Retrospectively, a much thinner OMML was visible on the preoperative MR images on which the diagnosis of a ruptured ACL was made (Fig. B). Due to postoperative fibrosis, the ligament became thicker and the fibers more separated by hyperintense lines (Fig. C). Coincidentally, the patient recently underwent an MRI examination of the contralateral knee after a soccer injury, where a normal medial OMML was clearly visible.

When reviewing the recorded arthroscopic video images of the cruciate ligament surgery three years earlier, the orthopedic surgeon confirmed the presence of this particular ligament.

Comment

There are several well-known incidentally found anatomical structures in the knee that can mimic meniscal tears and displaced meniscal fragments and the OMML is but one of these. Other anatomical variants include the meniscofemoral and transverse meniscal ligaments, which mimic meniscal tears at their attachment sites. They require no treatment. A medial and a lateral OMML are known, both running through the intercondylar notch between the cruciate ligaments. They are named by their anterior attachment. The medial OMML attaches to the anterior horn of the medial meniscus and the posterior horn of the lateral meniscus; vice versa for the lateral OMML. Prevalence ranges from 1-4%. It should not be mistaken for a displaced meniscal fragment from a bucket handle or flap tear.

Reference

1. Sanders T.G., Linares R.C., Lawhorn K.W., Tirman P.F., Houser C.: Oblique meniscomeniscal ligament: another potential pitfall for a meniscal tear -anatomic description and appearance at MR imaging in three cases. *Radiology*, 1999, 213: 213-216.

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