Meniscal Ossicle Diagnosed by Magnetic Resonance Imaging: A Case Report

Osso meniscal diagnosticado através de ressonância magnética: Relato de caso

Henrique Augusto Lino1, Bianca Lisa de Faria1, Ana Maria Magalhães Valle Cundari1

1 Faculty of Medicine, University of Itaúna, Itaúna, Brazil

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Address for correspondence Henrique Augusto Lino, MD, Faculdade de Medicina, Trabalho feito na Universidade de Itaúna, Itaúna, MG, Brasil (e-mail: henriquelino@live.com).

Abstract

Meniscal ossicle is a rare condition, which is occasionally symptomatic. Even though it has a low incidence, its diagnosis is important, because it may mimic other lesions. Magnetic resonance imaging (MRI) is a sensitive and specific method for its diagnosis. Its clinical behavior is benign and its conservative management is almost always successful, without any need for diagnostic and therapeutic procedures, such as arthroscopy. This report was able to demonstrate the correct diagnosis by MRI.

Keywords

► knee injuries
► knee joint
► tibial menisci
► magnetic resonance imaging

Case Report

A 35-year-old white male patient complained of chronic knee joint pain, with progressive worsening over 1 year. The pain was...
exacerbated by exercise and throughout the day, and relieved with painkillers and rest.

He was a healthy patient with no comorbidities and denied a history of trauma. He also had no relevant family history of musculoskeletal disorders, allergic reactions or surgical history.

Physical examination showed pain in the medial compartment of the knee joint during active and passive joint flexion.

The imaging examination was performed the following week, with image acquisition in T1, T2 fatsat and Gradient Recoil Echo T2. The images showed a round or triangular structure, with well-defined contours and intensity similar to bone tissue, in all sequences, in the posterior horn topography of the medial meniscus, as shown in Figures 1–4. Because of the diagnosis, treatment options with arthroscopic

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**Fig. 1** T1WI weighted image in sagittal plane, demonstrates triangular structure, with intensity equivalent to bone tissue, located in posterior horn topography of the medial meniscus.

**Fig. 2** T1WI weighted image in axial plane, evidences the meniscal ossicle adjacent to the posterior horn of the medial meniscus.

**Fig. 3** T2WI fatsat weighted image in axial plane.

**Fig. 4** Coronal image obtained in GRE T2.
Meniscal bone resection or clinical treatment were offered to the patient. The patient opted for a conservative approach, using analgesics and anti-inflammatory drugs for symptom control and clinical follow-up. The evolution was favorable, without the need for additional therapy.

**Discussion**

The first description with repercussion on this condition was of Burrows, in 1934, with a clinical, radiological and anatomopathological study of the case. Since then, <50 cases have been reported worldwide. It is estimated that its highest incidence occurs between 12 and 76 years old, with an average diagnosis at 26 years old, and males are 84% of the reported cases.

The lesion may be asymptomatic, be found accidentally, or present with arthralgia, as reported here, and edema. It is rarely associated with nonspecific symptoms or limitation of joint movement. Some authors point out the association of the finding with joint trauma, but its traumatic nature is not consensual. Thus, its clinical presentation is nonspecific and does not allow a definitive diagnosis.

The most sensitive and specific method for diagnosing the lesion is MRI, since it allows characterizing it as isointense to bone tissue. Its most common location is in the posterior horn topography of the medial meniscus. Cases of lateral meniscus, anterior horns or bilateral bones are considerably rarer presentations.

Regarding the clinical and imaging aspects, osteochondral loose bodies, chondrocalcinosis, meniscal rupture, osteochondritis dissecans and synovial osteochondromatosis are its main differential diagnoses. The major importance in its accurate diagnosis is to avoid unnecessary propaedeutics and treatments, since, contrary to the aforementioned conditions, its conservative treatment with anti-inflammatory drugs tends to be sufficient for clinical control. Occasionally, treatment with arthroscopic resection is also an option.

Meniscal bone has a characteristic MRI presentation, which is an accurate method for its diagnosis. When correctly differentiated from other potential differential diagnoses, invasive propaedeutic and therapy are avoided, as its conservative treatment tends to be effective, avoids increased morbidity and expense for the patient or for the public health system.

**Conflicts of Interests**

The authors declare that there are no conflicts of interests.

**References**