

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/7773949>

Bilateral hypoplasia of medial meniscus

ARTICLE *in* KNEE SURGERY SPORTS TRAUMATOLOGY ARTHROSCOPY · MARCH 2006

Impact Factor: 3.05 · DOI: 10.1007/s00167-005-0654-5 · Source: PubMed

CITATIONS

3

READS

105

4 AUTHORS:



[Juan Carlos Monllau](#)

Consorti MAR Parc de Salut de Barcelona

125 PUBLICATIONS **767** CITATIONS

SEE PROFILE



[Gemma Gonzalez-Lucena](#)

Hospital de la Santa Creu i Sant Pau

17 PUBLICATIONS **123** CITATIONS

SEE PROFILE



[Lluís Puig Verdie](#)

IMIM Hospital del Mar Medical Research Ins...

78 PUBLICATIONS **522** CITATIONS

SEE PROFILE



[Enric Cáceres](#)

Autonomous University of Barcelona

98 PUBLICATIONS **805** CITATIONS

SEE PROFILE

Joan C. Monllau
Gemma González
Lluís Puig
Enric Cáceres

Bilateral hypoplasia of the medial meniscus

Received: 20 October 2004
Accepted: 1 February 2005
Published online: 21 June 2005
© Springer-Verlag 2005

J. C. Monllau (✉) · G. González
L. Puig · E. Cáceres
Department of Orthopaedic Surgery,
IMAS-Hospital Universitari del Mar,
Universitat Autònoma de Barcelona,
Passeig Marítim 25-29, 08003 Barcelona,
Spain
E-mail: jmonllau@imas.imim.es
Tel.: +34-93-2483000
Fax: +34-93-2483197

Abstract Only a few cases of the nearly unknown hypoplastic meniscus abnormality have been described. A case report of an incidental finding in a young female with a bilateral hypoplastic medial menisci is presented and, as far as we know, is the first report of bilateral hypoplasia of the medial meniscus in the literature.

Keywords Hypoplasia · Medial meniscus · Congenital · Knee

Introduction

Of the several reported congenital meniscal abnormalities, anomalous attachments of the meniscal horns and discoid menisci are the most frequent [1, 7]. Based on the few reported cases, the true incidence of the very rare hypoplasia and agenesis of the meniscus that usually appear in association with other knee anomalies [2, 3, 7] is unknown [4, 5, 6, 8].

We report a new case of bilateral hypoplasia of the medial meniscus not in association with other knee anomalies in a young woman.

Case report

A 31-year-old healthy female with no history of previous knee traumatism visited us due to a long lasting left knee pain. There were no signs of instability. There was localised pain at the medial joint line. No signs of effusion were present. An MRI showed a nearly complete absence of the medial meniscus except for a portion of

the posterior horn and some rim residuals (Fig. 1). Arthroscopy was carried out because of patient's complaint of persistent pain. An almost complete absence of the medial meniscus (about some 20% of the remnant posterior meniscal horn) was found. As a consequence, almost all the medial tibial plateau surface was uncovered. A localised outerbridge grade III chondral lesion, believed to be the cause of the pain, was also seen in the medial femoral condyle and treated with radiofrequency (Fig. 2). The rest of the knee was normal. In light of these findings, we decided to study the contralateral knee. The MRI showed the same characteristics as those of the painful knee (Fig. 3).

Discussion

Congenital meniscal anomalies are very rare. They most frequently affect the lateral side of the knee [1, 7]. In 1967 Pfeil first reported a case of medial meniscal hypoplasia [5]. The association of simultaneous anomalies in the knee, in some cases, is likely due to

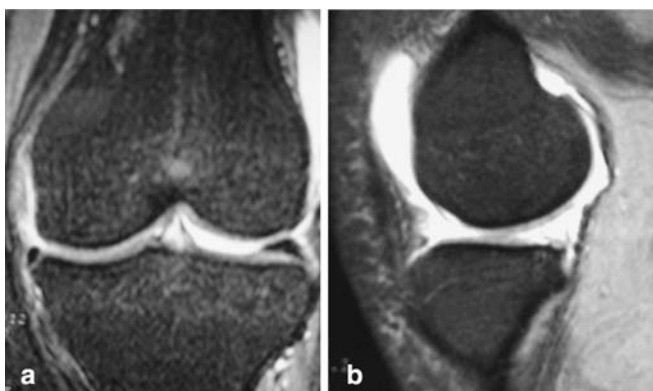


Fig. 1 a, b Coronal and sagittal T2-weighted MRI show a nearly complete absence of the medial meniscus except some rim residual

Fig. 2 a, b Arthroscopic examination showed a remnant posterior horn of medial meniscus, a chondral lesion in the femoral condyle and almost all the tibial surface uncovered

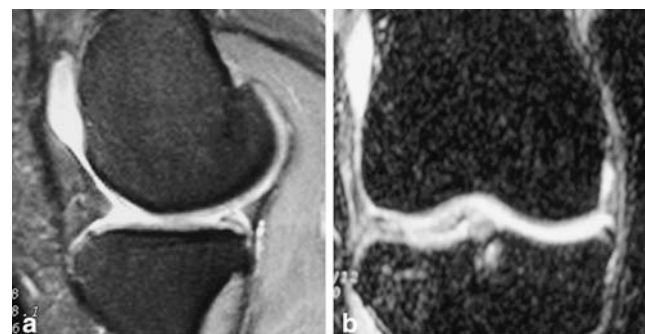
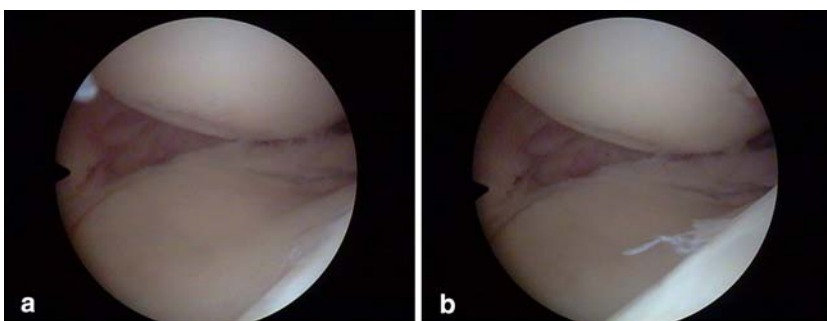


Fig. 3 a, b MRI of the right knee, showing similar findings than in the contralateral knee

the common mesenchymal origin of some of this structure, according to Clark and Ogden [1]. Contrary to the findings of Tolo et al. [7], no notable morphological abnormalities of the articular surfaces nor anomalies of the cruciate ligaments were found in the present case.

The role of the meniscus is crucial to the proper functioning of the knee as well as the protection of the hyaline cartilage. Its absence should lead to some degree of wear on the articular surfaces. However, evidence of cartilage damage was seen in only one reported case of

meniscus absence [3]. In the current case, a chondral injury in the load bearing area of the medial femoral condyle was also found.

Ohana et al. reported the first case of an isolated bilateral hypoplasia of the lateral meniscus [4]. Mitsuoka et al. reported a combined hypoplasia of the lateral meniscus and anterior cruciate ligament in association with an osteochondritis dissecans of the medial femoral condyle [3]. As far as we have been able to ascertain, this is the first report in medical literature of an isolated bilateral hypoplasia of the medial meniscus.

References

1. Clark CR, Ogden JA (1983) Development of the menisci of the human knee joint: morphologic changes and their potential role in childhood meniscal injury. *J Bone Jt Surg Am* 65:538–547
2. Dejour H, Neyret Ph, Eberhard Ph, Walch G (1990) Absence congénitale bilatérale du ligament croisé antérieur et du ménisque interne du genou. *Revue de Chirurgie Orthopédique* 76:329–332
3. Mitsuoka T, Horibe S, Hamada M (1998) Osteochondritis dissecans of the medial femoral condyle associated with congenital hypoplasia of the lateral meniscus and anterior cruciate ligament. *Arthroscopy* 14:630–633
4. Ohana N, Plotquin D, Atar D (1995) Case report: bilateral hypoplastic lateral meniscus. *Arthroscopy* 11:740–742
5. Pfeil G (1967) Der hypoplastische hypermobile meniskus. *Beitr Orthop Traumatol* 14:3–5
6. Tetik O, Doral MN, Atay OA, Leblebicioglu G, Türker S (2003) Partial deficiency of the lateral meniscus. *Arthroscopy* 19:E42
7. Tolo VT (1981) Congenital absence of the menisci and cruciate ligaments of the knee: a case report. *J Bone Jt Surg Am* 63:1022–1024
8. Twyman RS, Ferris BD (1991) Congenital hypoplasia of the medial meniscus: a report of two cases. *Arthroscopy* 7:148–150