

Memory

Lateral meniscus knee injuries without related damage: 10-year follow-up study[☆]

Lésions isolées et opérées du ménisque latéral sur genou stable : étude fonctionnelle à 10 ans de suivi

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Available online 22 October 2014

Abstract

Meniscal lesions are frequent during sport practice. Although the lateral meniscus is affected in only 25% of all meniscal lesions, lateral lesions are usually known to have poor clinical outcome. Our monocentric study consisted in the systematic evaluation of all patients treated in our unit for a unique lesion of the lateral meniscus in an otherwise normal knee. Follow-up was of at least ten years. Functional results were rated with four grades currently used in traumatology practice. Statistical analysis was conducted to identify predictive factors of poor outcome. Thirty-nine patients were included. Functional assessment showed 12% of excellent, 41% of good, 35% of mediocre and 12% of poor results on Arpege's score; 65% of good and excellent and 35% of mediocre results on Lysholm's score. The average subjective IKDC score 58 ± 15 , the objective score showed 0% of A, 88% of B and 12% of C. The average Koos score was 83.7 ± 17 . Better outcome was noted in patients with horizontal injuries ($P=0.04$) or in patients with central segment injury ($P=0.05$). Similar data concerning the poor functional outcome of lateral meniscus tears have been published. Only two thirds of patients claim good or excellent results after 10 years.

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Keywords: Lateral meniscal tears; Meniscectomy; Follow-up

Résumé

Les lésions méniscales sont rencontrées de manière courante en traumatologie du sport. Si l'incidence prédomine au ménisque médial avec seulement 25 % d'atteintes latérales, l'évolution de ces dernières garde une mauvaise réputation. Notre étude monocentrique a consisté en une revue à 10 ans des patients pris en charge pour une lésion isolée du ménisque latéral. L'évolution fonctionnelle a été évaluée par la cotation de 4 scores. Une analyse statistique comparative a été réalisée à la recherche de facteurs prédictifs d'une évolution péjorative. Trente-neuf patients ont été inclus. La cotation fonctionnelle a retrouvé respectivement 12 % d'excellents, 41 % de bons, 35 % de moyens et 12 % de mauvais résultats pour le score ARPEGE, 65 % de très bons et bons résultats et 35 % de résultats moyens pour le score de Lysholm. Le score IKDC subjectif moyen était de $58,5 \pm 15$, l'IKDC objective ne retrouvait aucun grade A, 88 % de grade B et 12 % de grade C. Le score KOOS retrouvait une moyenne de $83,7 \pm 17$. Une meilleure évolution a pu être mise en évidence en cas de lésions horizontales ($p=0,04$) et d'atteinte du segment moyen ($p=0,05$). Nos résultats concordent avec ceux de la littérature en montrant que l'évolution fonctionnelle des patients ayant bénéficié d'un traitement arthroscopique pour une lésion isolée du ménisque latéral est moyennement satisfaisante. Seulement 2/3 des patients rapportent d'excellents et bons résultats à 10 ans.

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Mots clés : Lésion méniscale latérale ; Ménissectomie ; Suivi

DOI of original article: <http://dx.doi.org/10.1016/j.jts.2012.09.004>.

[☆] This article was originally published in French Language in *Journal de Traumatologie du Sport* 2012;29:184–91. <http://dx.doi.org/10.1016/j.jts.2012.09.004>.

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<http://dx.doi.org/10.1016/j.jts.2014.08.001>

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1. Introduction

Meniscal lesions are frequently found in sport traumatology, with an incidence of 10,000 per habitant varying from 4.2 in women to 9 in men [1]. These meniscal injuries usually affect the medial meniscus with only 25% of the lesions affecting the lateral meniscus [2,3]. This lower incidence explains the number of more confidential studies on the management of isolated injuries of the lateral meniscus.

Several studies have demonstrated the arthrogenic risk of partial meniscectomy [4–6], but few of them have differentiated between the medial and lateral meniscus. However, not only anatomically but also biomechanically, meniscuses present differing properties. It is licit to consider that medial and lateral meniscal have to be studied separately in their post-surgical outcome. With this in mind, a few works have specifically studied the outcome of lateral meniscus injuries and most have reported short-term results.

Our study was aimed at assessing the functional outcome, at least ten years later, of the arthroscopic surgery of an isolated lateral meniscal injury on an otherwise normal knee, so as to identify the predictive factors.

2. Patients and methods

Our monocentric study consisted in a systematic review of all the patients treated in the department of traumatology orthopaedics of the university hospital in Brest between January 1 1998 and December 31 2002 for an isolated lesion of the lateral meniscus in a stable knee. For this, all the surgical reports of patients in whom the coding mentioned a meniscus injury (W822, S253, T215 or T216) during this period were analysed. Patients presenting with a stage C or D gonarthrosis according to the International Knee Documentation Committee (IKDC) (femoral patellar [FP], medial femoral tibia [MFT] or lateral femoral tibia [LFT]) meniscal injury, whatever its type were excluded for this study. Also lesions of anterior cruciate ligament (ACL) or posterior cruciate ligament (PCL) or lateral ligament were excluded for the study.

All the patients whose files did not include any exclusion criteria were re-contacted by telephone and reviewed in clinical consultation. During the latter, the patients were submitted to four standardised questionnaires on the functional evolution of the knee: Lysholm's score [7], a subjective IKDC score [8], Arpege's score [9] and, finally Koos's score [10]. Each patient then went through a standardised bilateral physical examination, conducted by a single, independent operator, thus providing an objective IKDC score [8].

Four hundred and ninety-five case reports were analysed, among which 113 patients presented isolated or associated lateral meniscal lesions (22.8%) (Table 1); after application of the exclusion criteria, 39 files were retained (34.5%). There were nine women and 30 men (sex ratio 3/1). Their mean age was of 31.4 yrs (15–65). The injuries concerned 19 left and 20 right knees. Patients' mean height was of 168 cm (158–193) and mean weight 74.3 kg (60–90). The mean body mass index was of 24.4 (19.2–31.3) (Table 2).

Table 1
Distribution of isolated and combined injuries to the lateral meniscus.

Injuries	Number
Isolated lateral meniscus lesions	39 (34.5%)
LM + MM	17 (15%)
LM + ACL	12 (10.6%)
LM + MM + ACL	3 (2.6%)
LM + Chondropathy (1 compartment)	3 (LFT2/MFT1) (2.6%)
LM + Chondropathy (2 compartments)	2 (FP + MFT 1/FP + LFT1) (1.7%)
LM + Chondropathy (3 compartments)	2 (1.7%)
MM + Chondropathy (1 compartment)	8 (LFT3/MFT3/FP2) (7.1%)
LM + MM + Chondropathy (2 compartments)	8 (LFT + MFT6/FP + MFT) (7.1%)
LM + MM + Chondropathy (3 compartments)	8 (7.1%)
LM + ACL + Chondropathy (1 compartment)	1 (FP) (0.9%)
LM + ACL + Lateral ligament plan	1 (0.9%)
LM + MM + ACL + Chondropathy (1 compartment)	1 (MFT) (0.9%)
LM + LM + ACL + PCL + Chondropathy (2 compartments)	1 (MFT + FP) (0.9%)
ML + Lateral tibial plateau fracture	2 (1.7%)
ML with history of valgisation osteotomy	2 (1.7%)

LM: lateral meniscus; MM: medial meniscus; ACL: anterior cruciate ligament; PCL: posterior cruciate ligament; FP: femoral patellar compartment; MFT: medial femorotibial; LFT: lateral femorotibial.

When treatment was started, forty-six percent of the patients had regular sport activities several times a week. Forty-four percent of them had sport activity that required pivoting and 38% repeated impulses.

The notion of an initial trauma was found in 51% of cases. The motive for the consultation reported was pain in 22% of cases (56%), locking in six cases (16%), water on the knee in three

Table 2
Population characteristics.

Gender	
Men	30 (77%)
Women	9 (23%)
Age	
Total	31.4 ± 13 (15–65)
Men	29.4 ± 11 (15–64)
Women	38.2 ± 19 (15–65)
Side	
Right	20 (51%)
Left	19 (49%)
Height	
Total	168 ± 7.8 cm (158–193)
Men	177 ± 6.8 cm (163–186)
Women	164 ± 4.6 cm (158–170)
Weight	
Total	74.3 ± 9.6 kg (60–90)
Men	74.8 ± 10.2 kg (57–98)
Women	61.8 ± 7.1 kg (60–80)
BMI	
Total	24.4 ± 5.6 (19.2–31.3)
Men	24.2 ± 2.9 (19.2–31.3)
Sport	
Several times/week	18 (46%)
Pivot sports	8 (44%)
Repeated impulse sports	7 (38%)
Initial injury	20 (51%)

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