

Meniscal degenerative lesions*

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Meniskusun dejeneratif lezyonları

Yaşlı hastalarda dejeneratif menisküs lezyonlarının olduğunu biliyoruz ancak bu lezyonların gerçek mekanizmalarını bilemiyoruz. Literatür de bu konuya tam bir açıklık getirememektedir. Bunlar primer lezyonlar mıdır yoksa artrozun erken evrelerini mi oluştururlar. Bu soruyu cevaplamak için bir sınıflandırma önermekteyiz. Epidemiyolojiyi araştırdık ve bu çerçevede artroskopik menisektominin sonuçlarını değerlendirdik.

Anahtar kelimeler: Menisküs, dejeneratif lezyonlar

Meniscal degenerative lesions

We know that degenerative meniscal lesions by older patients exist but we do not exactly know the cause of meniscal lesions in this context. There is an ambiguity in the literature. Are these lesions primary or an early stage of arthrosis. In order to answer this question we proposed a classification, studied the epidemiology and assessed the results of arthroscopic meniscectomy in this context.

Keywords: Meniscus, degenerative lesions

We know that meniscal lesions by older patients exist and we know that meniscectomy is effective in such a group, even if results are a little bit lower.

But we don't exactly know the cause of the meniscal lesion in this context, and its relations with cartilage degeneration. The great merit of arthroscopy was to better define the different types of meniscal lesions. Before arthroscopy, Smillie had in his time underlined the importance and the frequency of horizontal lesions. But, on the contrary, Trillat's classification was mainly based on vertical lesions, that is to say traumatic lesions, and assimilated horizontal lesions to osteoarthritis. There are true traumatic lesions (bucket handle and so one...). Results of meniscectomy are excellent whatever the age. There are meniscal lesions associated with true osteoarthritis: they can be called meniscarthrosis. But there are also meniscal lesions which are not traumatic, which are not associated with osteoarthritis, and which have a particular aspect. According to H. Dorfmann and T. Boyer who first in France described these lesions, we call them: meniscal degenerative lesions. They usually occur spontaneously, without any traumatism and symptoms are pain and tenderness on the joint line with or without effusion.

There is still an ambiguity in the literature. Are they an early stage of arthrosis? In other words, do they always presage the development of true arthrosis? Or are they primary, as we think? In order to answer this question, we will:

- Propose a classification
- Study the epidemiology of these lesions
- Assess the results of arthroscopic meniscectomy in this context.

Classification

According to Boyer and Dorfmann, we use the following classification:

Type I: Abnormal meniscus with a dull surface and yellowish in colour but without any tear

Type II: Calcification of the meniscus

Type III: Horizontal cleavage

Type IV: Radial tear, isolated or associated with a horizontal cleavage, which produces a flap lesion.

Type V: Complex tear.

This is an example of type II, horizontal cleavage

This is an example of type IV, this "horizontal" flap must be distinguished from a "vertical" flap produced by a vertical lesion, whose origin is traumatic.

This is an example of type V, lesions

It is obvious that types III, IV and V are the most frequent degenerative lesions encountered during arthroscopy. We must underline the fact that this classification was proposed before MRI studies. MRI has confirmed the reality of degenerative lesions which start in the meniscal tissue (grade I and II) and finally reach the meniscal surface (grade III).

Epidemiology

A. Frank conducted with the French Arthroscopy Society a multicentric study in order to assess the frequency, the relations with several factors as age or cartilaginous degeneration. 1436 medial meniscal lesions were analysed by arthroscopy (mean age: 44, 14-85). 41 % were degenerative type. The mean age of vertical lesions was 36,88, flaps 46,50, and radial

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lesions 49,75. By patients older than 50, the rate of degenerative lesions was 60%. But MDL were also observed by young patients: 6.5% at 30 for example.

Significant chondral damage, that is to say grade III and grade IV, was present in 5 to 9% of traumatic lesions (mean age 48) and in 24 to 36% of MDL (mean age 57).

MDL and chondral degeneration increase parallelly with age. But there is no argument to consider the meniscal lesion as a consequence of the cartilaginous damage since many MDL are not associated with chondral degeneration. This parallelism between MDL and chondropathy can be regarded as a simultaneous and natural ageing of meniscal and cartilaginous tissues: in our opinion association is not related but fortuitous.

Four arguments sustain this opinion:

- First, as we said, MDL can be observed at an early age
- Secondly, chondropathy is often absent. H. Dorfmann, in his study, observes a completely normal cartilage in 57%
- Thirdly, two-third of the patients are males. This ratio is exactly inverse to the arthritis population.
- Finally, in our own study, radiological worsening after meniscectomy, develops with the same frequency whether the meniscal lesions are traumatic or degenerative, provided that the age is the same.

Treatment

If MDL can be considered as primary, arthroscopic meniscectomy is indicated and must be regarded as curative.

In our study of 24 patients reviewed with a complete clinic and radiological data (follow-up: 4 to 9 years), functional results were very good in 19 cases, good in 6, and poor in 3. No secondary procedure such as osteotomy was done. In the french literature, the rate of very good and good results varies from 76% to 92%.

There is no denying that results are a little lower than those of vertical traumatic lesions. The main pejorative factors have nothing to do with the age itself but with the eventual associated cartilaginous degeneration and the extent of the meniscectomy.

X-ray assessment is very interesting. In our study it consisted of a full length weight bearing film, a weight bearing AP view in extension and slight flexion, and a lateral view. Compared to the opposite knee, the radiological aspect was the same in 17 cases. In 6 patients, there were more severe radiological appearances on the operated side and in one patient there was a more severe radiological appearance on the normal side. We have thus seen 3 cases of severe osteoarthritis on the operated knee and one on the unoperated knee. There was no difference between both knees, regarding varus or valgus deformity.

Discussion

Our purpose was to try to separate in terms of etiology and treatment three types of meniscal lesions.

- Traumatic lesions which are well known
- Meniscal degenerative lesions
- Meniscal lesions in the context of true arthritis, which we can call meniscarthrosis.

The second and third groups are often mixed in the literature and treatment of MDL is often included in the so called "debridement" which associates meniscectomy, shaving, partial synovectomy and so on. It's perhaps the reason why results of debridement are given to be globally good. In our opinion, we must separate MDL and meniscarthrosis. In the first group, even if there is a slight chondropathy, meniscectomy alone is sufficient, effective and can be regarded as curative. The term debridement should not be used to qualify this treatment which is a classical meniscectomy.

In the second group, meniscectomy must be regarded as palliative and included in the debridement procedure. Results are not so good and indications must be selected and discussed with osteotomy or prosthesis.

However the frontier between MDL and meniscarthrosis still remains blurred and some cases are on the borderline.

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