



Original article

Patellar tendinopathy: late-stage results from surgical treatment[☆]



Marcos Henrique Frauendorf Cenni^{a,*}, Thiago Daniel Macedo Silva^b,
Bruno Fajardo do Nascimento^a, Rodrigo Cristiano de Andrade^a,
Lúcio Flávio Biondi Pinheiro Júnior^a, Oscar Pinheiro Nicolai^a

^a Grupo de Joelho Belo Horizonte (GJBH), Belo Horizonte, MG, Brazil

^b Hospital Mater Dei, Belo Horizonte, MG, Brazil

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ABSTRACT

Objective: To evaluate the late-stage results from surgical treatment of patellar tendinopathy (PT), using the Visa score (Victorian Institute of Sport Tendon Study Group) and the Verheyden method.

Methods: This was a retrospective study in which the postoperative results from 12 patients (14 knees) who were operated between July 2002 and February 2011 were evaluated. The patients included in the study presented patellar tendinopathy that was refractory to conservative treatment, without any other concomitant lesions. Patients who were not properly followed up during the postoperative period were excluded.

Results: Using the Verheyden method, nine patients were considered to have very good results, two had good results and one had poor results. In relation to Visa, the mean was 92.4 points and only two patients had scores less than 70 points (66 and 55 points).

Conclusion: When surgical treatment for patellar tendinopathy is correctly indicated, it has good long-term results.

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Tendinopatia patelar: resultados tardios do tratamento cirúrgico

RESUMO

Objetivo: Avaliar os resultados tardios do tratamento cirúrgico na tendinopatia patelar (TP) com o uso do escore Visa (Victorian Institute of Sport Tendon Study Group) e o método de Verheyden.

Métodos: Estudo retrospectivo que avaliou os resultados pós-operatórios de 12 pacientes, ou 14 joelhos, entre julho de 2002 e fevereiro de 2011. Foram incluídos os pacientes com tendinopatia patelar refratários ao tratamento conservador e que não apresentavam outras

Palavras-chave:

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Estudos retrospectivos

[☆] Work performed in the Orthopedics and Traumatology Service, Hospital Mater Dei, Belo Horizonte, MG, Brazil.

* Corresponding author.

E-mails: cenni@pib.com.br, cenni14@gmail.com (M.H.F. Cenni).

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lesões cirúrgicas concomitantes. Pacientes que não foram devidamente acompanhados no período pós-operatório foram excluídos.

Resultados: Pelo método de Verheyden, nove pacientes foram considerados muito bons, dois bons e um ruim. Em relação ao Visa, a média foi de 92,4 pontos, com apenas dois pacientes abaixo de 70 pontos (66 e 55 pontos).

Conclusão: O tratamento cirúrgico da tendinopatia patelar, quando corretamente indicado, tem bons resultados em longo prazo.

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Introduction

Patellar tendinopathy is a common disorder among athletes, especially in activities that involve jumping and eccentric overloading on flexed knees.^{1,2} It was initially described as *jumper's knee* by Blazina et al.,³ and it also has synonyms relating to individuals' specific sports practices, such as: *high-jumper's knee* , *volley-ballers' knee* and *cross-country knee* .⁴

It generally affects individuals aged 20–40 years, with similar prevalence in men and women. It occurs most frequently at the lower pole of the patella (70%), followed by the upper pole (25%) and lastly the distal insertion of the tendon (5%).⁵

Patellar tendinopathy presents as well-localized anterior knee pain that relates to physical activity. The pain generally begins insidiously and gradually, relating to increasing quantity and intensity of training, or to activity that requires repetitive knee movements.⁶

In histological studies, the tendon presents degenerative and inflammatory alterations that may result in microtears, especially close to the lower pole of the patella.⁷

Blazina's classification was the first to be used in cases of patellar tendinopathy³ and it divided the pain into four grades: grade I –mild pain after physical activity; grade II –pain at the start of physical activity, with improvement after warming up and worsening at the end of the exercise, without any decrease in yield; grade III –pain during and after physical activity, with significant worsening of the athlete's yield; and grade IV –partial or total tearing of the tendon. Subsequently, it was modified by Roels et al.⁸

Among the intrinsic causes of patellar tendinopathy, the following can be highlighted: deficiency of the blood supply and lower elasticity of the proximal segment of the tendon⁴; and degeneration secondary to a chronic inflammatory process in the tissues adjacent to the tendon and bone impact during flexion, due to a prominent lower pole of the patella.⁹ The extrinsic factors are related to erroneous training, poorly guided physical activities and other overloads in a flexed position within day-to-day activities.

The diagnosis is based on the history and the clinical examination, and is complemented by radiographic, ultrasound and magnetic resonance imaging (MRI) examinations. Radiography shows the morphology of the inferior pole of the patella and may show calcifications in the tendon, while ultrasonography and MRI may show structural and inflammatory alterations of the tendon, such as thickening, degeneration and tears.^{10,11}

The initial treatment is conservative, with the aims of pain relief and functional recovery. It begins with institution of relative rest, modification of activities and control over predisposing factors, in association with use of medications and physiotherapy. This is effective in most cases, but with a risk of recurrence.^{12–15} Functional rehabilitation consists of analgesic and anti-inflammatory measures in association with mechanical therapy consisting of eccentric strengthening and specific stretching.^{16–18}

Other treatment options such as injection of corticosteroids are also used, although many authors present divergent opinions regarding their efficacy and safety.¹⁹ Application of platelet-rich plasma has been gaining more followers, but the results presented remain inconclusive.^{20,21}

Surgical treatment is indicated in cases that evolve with persistent pain and functional limitation after a minimum period of 6 months of well-executed conservative treatment.²² The presence of structural alterations of the tendon and impact with the lower pole of the patella are factors relating to failure of conservative treatment.²³

The surgical treatment consists of debridement of the degenerated tissue by means of longitudinal cuts in the tendon and abrasion of the inferior pole of the patella. It can be done in conformity with the technique described by Blazina et al.³ (open) or arthroscopically.^{24,25} The objective of the present study was to demonstrate the late-stage result from surgical treatment of patellar tendinitis in patients who evolved poorly with conservative treatment.

Materials and methods

This was a prospective study in which the late-stage post-operative results from 12 patients (14 knees) who underwent operations between July 2002 and February 2011 were evaluated.

Twenty-one patients with a diagnosis of patellar tendinopathy that was resistant to the initial treatment underwent surgical treatment performed by the same surgeon. These patients comprised 20 men and one woman.

All of these patients were amateur athletes and were doing at least one regular physical activity, such as running, tennis, soccer or basketball. In their clinical histories, they presented reports of chronic pain that had not improved through conservative treatment over a period of at least 6 months. The right knee was affected in seven patients, the left knee in 12 and both knees in two cases.

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