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Case report

Reconstruction of chronic patellar tendon rupture using graft from contralateral patella graft together with reinforcement from flexor tendons. Case report☆

Eduardo Frois Temponi[a,*], *Lúcio Honório de Carvalho Júnior*[a,b], *Cláudio Otávio da Silva Bernardes*[a], *Bruno Presses Teixeira*[a]

[a] *Hospital Madre Teresa, Belo Horizonte, MG, Brazil*
[b] *Department of Musculoskeletal System, School of Medicine, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil*

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ABSTRACT

Chronic patellar tendon rupture is a rare disabling injury that is technically difficult to repair. The true prevalence of this injury is unknown. Delayed reconstruction of chronic patellar tendon rupture has yielded suboptimal clinical and functional results. Many different surgical methods for reconstruction of chronic patellar tendon injury have been reported. In this report, we present a case with chronic patellar tendon injury that was addressed using a technique that had not previously been described in the literature, through combining procedures that had been described separately. The reconstruction method presented in this article has the advantages of being easy and reproducible, without a requirement of allografts.

Reconstrução de ruptura crônica do tendão patelar com enxerto patelar contralateral associado a reforço com tendões flexores. Relato de caso

Palavras-chave:
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Ruptura
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RESUMO

A ruptura crônica do tendão patelar é lesão rara e incapacitante e ainda tecnicamente difícil de abordar. A verdadeira prevalência dessa lesão é desconhecida. A reconstrução tardia das rupturas crônicas do tendão patelar apresenta resultados clínicos e funcionais abaixo do ideal. Muitos métodos cirúrgicos diferentes foram relatados para a reconstrução do tendão

☆ Study carried out at Knee Group, Service of Orthopedics and Traumatology, Hospital Madre Teresa, Belo Horizonte, MG, Brazil.

* *Corresponding author.*
E-mail: dufrois@hotmail.com (E. Frois Temponi).

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patelar em lesões crônicas. Neste relato apresentamos um caso com lesão crônica do tendão patelar abordado com técnica até então não descrita na literatura, que combina, todavia, técnicas previamente relatadas. O método de reconstrução presente neste artigo tem a vantagem de ser fácil e reprodutível, sem a necessidade de aloenxertos.

Introduction

Chronic rupture of the patellar tendon is an uncommon, but disabling injury, of unknown prevalence.[1,2] The impairment of the extensor mechanism results in great functional disability, making surgical treatment the gold standard therapy.[1–5] Diagnostic delay makes the treatment technically difficult and demanding, considering the proximal patellar migration due to quadriceps retraction, poor quality of the remaining tendon and knee stiffness.[5] Complications such as knee flexion deficit, quadriceps atony, surgical wound problems and surgical failure associated with the previously described methods are described in the literature. Little is known about the functional outcomes of these patients.[1–9]

As it is a rare condition with many described treatment techniques, there is no consensus on the optimal management. We present a case report with the use of autologous patellar graft reconstruction with contralateral bone-patellar tendon-bone (BPTB) associated with ipsilateral semitendinosus and gracilis tendons augmentation for a patient with chronic rupture of the patellar tendon. We did not find any similar procedures described in the literature to date.

Case report

A 36-year-old male patient, previously healthy, with a history of spontaneous traumatic rupture of the left knee patellar tendon during a soccer match in 2009, underwent surgery 10 days after the incident at another institution with direct repair with transosseous fixation. According to the patient, during the postoperative period he used a knee brace that kept the knee extended by four weeks, followed by gradual mobilization after this period. He reported that months after the procedure he observed proximal migration of the patella with subsequent onset of limping, loss of quadriceps strength and instability.

He sought treatment at the Knee Group of the Orthopedics and Traumatology Service in August 2014, complaining of functional limitation and extension strength impairment of the affected knee. On physical examination he had: quadriceps hypotrophy (thigh circumferential measurement, 10 cm above the proximal pole of the patella – Right: 43.5 cm/Left: 40 cm), symmetrical range of motion (ROM) (0–130), decreased quadriceps strength (10 degrees deficit of active extension). Radiographs showed patella alta (Catton and Deschamps index: 2.2). By then, surgical treatment was offered for the chronic lesion. He had Tegner level of activity score of 1 and IKDC score of 33.3.

The procedure was carried out under spinal anesthesia, with the use of pneumatic tourniquet at the root of the thigh adjusted to 300 mmHg. First, the BPTB autograft was harvested from the contralateral knee with an anterior incision and removal of 25 mm-long and 10-mm wide bone blocks in the patella and anterior tibial tuberosity (ATT), similar to the one used for anterior cruciate ligament (ACL) reconstruction. Subsequently, an anterior incision was made in the affected knee

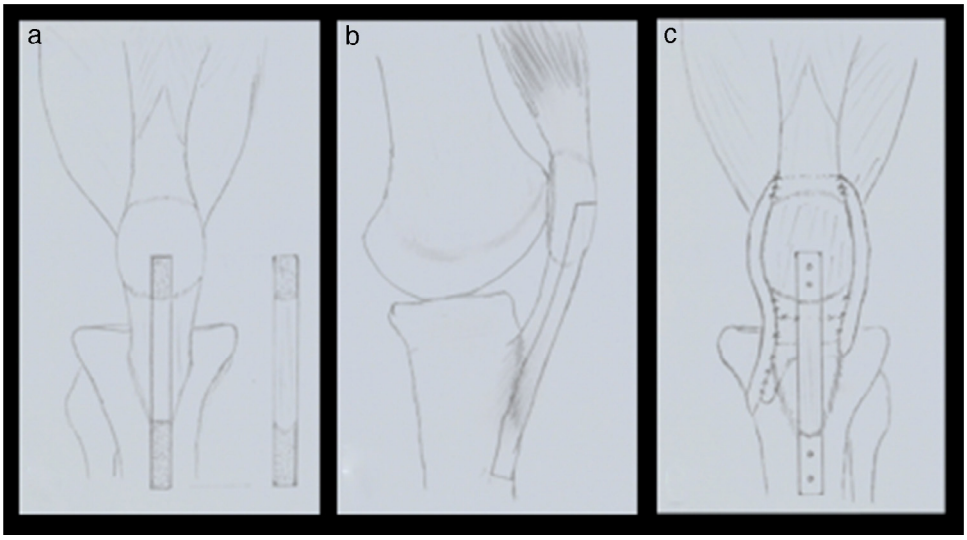

Fig. 1 – Schematic drawing showing contralateral patellar graft removal technique (a and b) with subsequent contralateral grafting, with hamstrings augmentation preserving tibial insertions (c).