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Review Article

Lateral patellar retinacular release: changes over the last ten years☆

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ABSTRACT

Lateral retinacular release is a useful resource in knee surgery that can be used for disorders of the extensor mechanism. For many years, it was indiscriminately used in the treatment of the various patellofemoral joint alterations, with conflicting functional results. This study aimed to analyze the changes that have occurred in the indications and clinical effectiveness of lateral retinacular release by reviewing the relevant literature of the past ten years, comparing it to the classic literature on the subject. It was found that less extensive releases decompress the lateral patellar facet, helping with pain control, while decreasing the risks of medial subluxation. Nowadays, there is clear evidence for its indication in the lateral patellar hypercompression syndrome associated with anterior knee pain, as long as there is no related instability; furthermore, it will normally play an adjuvant role in extensor mechanism alignment surgeries for cases of recurrent patellar instability. The initial results for symptomatic patellofemoral osteoarthritis are promising when lateral release is combined with cartilage debridement; in total knee replacement, it is more commonly used for the correction of valgus deformity in order to improve the components' congruency. Finally, distinguishing the different patellofemoral joint pathologies is seen as crucial in order to indicate this procedure. Further randomized control trials that compare surgical techniques with long-term results are still needed.

☆ Study conducted at the Hospital Novo Atibaia, Instituto de Cirurgia do Joelho Dr. Kenji Kawakami, Atibaia, SP, Brazil, and at the Universidade Federal de São Paulo, Escola Paulista de Medicina, Departamento de Ortopedia e Traumatologia, Centro de Traumato-Ortopedia do Esporte, São Paulo, SP, Brazil.

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Liberação retinacular lateral da patela: o que mudou nos últimos dez anos

Palavras-chave:
Articulação patelofemoral
Instabilidade articular
Síndrome da dor patelofemoral
Osteoartrite do joelho
Artroplastia do joelho

RESUMO

A liberação retinacular lateral da patela é um recurso útil nas cirurgias do joelho e pode ser feita nas desordens do mecanismo extensor. Durante muitos anos, foi usada de forma indiscriminada para o tratamento das diversas alterações da articulação patelofemoral, com resultados funcionais conflitantes. O objetivo deste artigo é analisar as mudanças ocorridas nas indicações e na eficácia clínica da liberação retinacular lateral da patela ao revisar a literatura pertinente dos últimos dez anos e contrapô-la com a literatura clássica sobre o tema. Encontrou-se que liberações menos extensas descomprimem a faceta lateral da patela, auxiliam no controle da dor, enquanto diminuem os riscos de subluxação medial. Atualmente, existem claras evidências para sua indicação na síndrome da hiperpressão lateral da patela associada a dor anterior do joelho, desde que não haja instabilidade concomitante; além disso, o procedimento geralmente atuará de forma adjuvante em cirurgias de realinhamento do mecanismo extensor nos casos de instabilidade patelar recorrente. Os resultados iniciais para os casos de osteoartrose patelofemoral sintomática são animadores quando se combina a liberação lateral com o desbridamento cartilaginoso; na artroplastia total do joelho, é mais comumente feita nas correções das deformidades em valgo para melhorar a congruência dos componentes. Finalmente, percebe-se como crucial a distinção das diferentes patologias da articulação patelofemoral para que se possa indicar esse procedimento. Ainda há necessidade de mais ensaios clínicos randomizados com vistas à comparação de técnicas cirúrgicas com resultados em longo prazo.

Introduction

Lateral retinacular release of the patella is a useful resource for knee surgeries and may be performed in disorders of the extensor apparatus, whether or not associated with other procedures. The theoretic basis of this technique is the imbalance of the extension mechanism caused by excessive tension of the lateral retinaculum, which contributes to patellofemoral disorders, such as anterior knee pain, acute or chronic instability, patellar chondropathy, and patellofemoral osteoarthrosis (OA).[1–3]

For many years, lateral retinacular release of the patella has been used indiscriminately for the treatment of various extensor mechanism abnormalities, presenting conflicting functional results.[4] Over the years, it has been noted that in order to effectively treat patellofemoral joint disorders, it is important to better understand the anatomical and biomechanical issues involved in this joint.[2]

This article aimed to analyze the changes in indications and clinical efficacy of lateral patellar retinacular release by reviewing the relevant literature of the last ten years, comparing it with the classic literature on the subject. To conclude, the authors suggest a possible role that lateral retinacular release plays today in the surgical treatment of major patellofemoral disorders.

Anatomy of the patellofemoral joint

The patellofemoral joint is intrinsically unstable and depends on bone morphology and musculotendinous structures to maintain its stability.[3] This stability is influenced by the geometry of the trochlear groove, both in depth and tilt, since the lateral surface of the trochlear groove is higher on the anterior surface of the femur and decreases in more distal and posterior positions, an important bone scaffold for the patellar excursion in extension and initial flexion. As the Q angle increases from flexion to extension, the tension in the quadriceps and patellar tendons decreases. This occurs because the tibia rotates externally, thus moving the tibial tubercle laterally, in a mechanism known as screw-home. This relationship contributes to greater patellar instability in extension and in small degrees of flexion, causing patellar dislocation. In turn, during flexion, the quadriceps and patellar tendons form a posterior force vector, providing greater patellar stability.[4,5]

The vastus medialis oblique (VMO) muscle actively acts as a stabilizer, while the medial patellofemoral ligament (MPFL) and the lateral retinaculum are passive stabilizers. Imbalances may occur due to VMO muscle weakening or increased tension in the lateral retinaculum.[3,4]

The iliotibial tract is inserted into Gerdy's tubercle, but also connects with the quadriceps tendon and the patellar

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