



Original article

Result from arthroscopic surgical treatment of renewed tearing of the rotator cuff of the shoulder[☆]



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ABSTRACT

Objectives: To evaluate function among patients with postoperative recurrence of rotator cuff injuries that was treated arthroscopically (case series) and compare this with function in patients without recurrence (control group); and to compare function among patients with recurrence of rotator cuff injuries that were greater than and smaller than 3 cm.

Methods: This was a retrospective evaluation of patients who underwent arthroscopic revision of rotator cuff injuries using the ASES, Constant & Murley and UCLA scores and a visual analog pain scale, in comparison with patients in a control group who underwent primary rotator cuff repair.

Results: The size of the rotator cuff injury recurrence had a statistically significant influence on the result from the arthroscopic surgical treatment. The functional scores showed worse results than those from the first procedure.

Conclusion: Arthroscopic surgical treatment of renewed tearing of rotator cuff injuries showed worse functional scores than those from primary repair of the injury.

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Resultado do tratamento cirúrgico artroscópico das rerrupturas do manguito rotador do ombro

RESUMO

Objetivos: Avaliar a função de pacientes operados por via artroscópica de recidiva pós-cirúrgica de lesão do manguito rotador (série de casos) e compará-los com aqueles sem recidiva (grupo controle). Comparar a função de pacientes com recidiva de lesões do manguito rotador (MR) maiores e menores do que 3 cm.

Palavras-chave:

Bainha rotadora

Falha de tratamento

Artroscopia

[☆] Work developed at Lifecenter Hospital, Belo Horizonte Hospital and Orthopedic Hospital, Belo Horizonte, MG, Brazil.

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Métodos: Avaliação retrospectiva de pacientes submetidos a revisão artroscópica das lesões do manguito rotador com o uso dos escores de ASES, Constant e Murley, UCLA e escala analógica de dor e comparação com pacientes do grupo controle submetidos a reparo primário do MR.

Resultados: O tamanho da lesão do manguito rotador na recidiva apresentou influência no resultado do tratamento cirúrgico artroscópico com significância estatística. Os escores funcionais mostraram piores resultados quando comparados àqueles do primeiro procedimento.

Conclusão: O tratamento cirúrgico artroscópico das rerrupturas de lesões do manguito rotador mostrou piores escores funcionais quando comparado ao reparo primário da lesão.

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Introduction

Surgical treatment of recurrence of rotator cuff injuries is a challenge because of the diagnostic difficulties and surgical technique, and because it evolves with results that are inferior to those of primary surgery.¹ The approach needs to be careful and surgical treatment may not be the only option. The evolution of the lesions is unpredictable² and there may be discordance between the clinical assessment and the imaging examinations.³ Persistence of pain and loss of function after conservative treatment may indicate the need for surgical treatment. Most studies have evaluated the results from surgical repairs performed as open revision procedures. Arthroscopic repair presents advantages, such as lower aggression in relation to the deltoid muscle, the possibility of diagnosing associated lesions and better viewing and classification of the size of the injury.⁴

Recurrences of rotator cuff injuries are a common complication. The incidence of recurrences has been estimated as 35% for small injuries^{5,6} and may reach more than 94% in cases of extensive injuries.^{7,8} The etiology of recurrences varies.¹ Despite the advances in treatment that have been achieved, there are no precise parameters for diagnosing recurrences of these injuries.⁹ In this regard, physical examination and imaging methods are of great importance, in that they provide additional data that might guide the diagnosis.

The initial radiographic evaluation makes it possible to estimate the upward migration of the humeral head, presence of subacromial spurs, glenohumeral osteoarthritis and anchor positions. Additional information may be obtained through other methods, such as ultrasonography (US), magnetic resonance imaging (MRI) and arthro-computed tomography (arthro-CT).¹⁰ These examinations are indicated when the postoperative recovery evolves in an unsatisfactory manner.¹¹ MRI is considered to be the most suitable noninvasive imaging examination.

The characteristics of the supraspinatus tendon after the operation can be assessed using MRI into five types, according to the classification system proposed by Sugaya et al.¹² This examination makes it possible to evaluate the degree of fatty infiltration of the muscle by means of the classification system of Goutallier et al.¹³ and the degree of muscle trophism by means of the tangent sign proposed by Zanetti et al.¹⁴ All of these factors have prognostic value and directly

influence patient management and the results from the surgical treatment.³

The objectives of the present study were as follows:

1. To evaluate function among patients who underwent operations due to recurrence of rotator cuff injuries (case series) and compare them with patients without recurrences (control group).
2. To compare function among patients with rotator cuff injuries larger and smaller than 3 cm.

Materials and methods

Patients who underwent arthroscopic revision of rotator cuff injuries at the Lifecenter, Belo Horizonte and Orthopedic hospitals in Belo Horizonte, MG, performed by the four titular surgeons of the group between January 2003 and November 2012, were retrospectively evaluated.

With the aim of having a better statistical evaluation of the results, two comparative groups were used in this study: the case group, which consisted of patients with renewed tearing who were reoperated arthroscopically; and the control group, formed by patients who had been operated only once for rotator cuff repair.

Case group

This group comprised 57 patients and 58 shoulders (one patient affected bilaterally) and underwent reoperation to treat recurrences of rotator cuff injuries. Fifteen shoulders (26.3%) had traumatic etiology and 45, non-traumatic.

During the surgical procedure, the lesions were measured in the anteroposterior direction and were grouped as larger than or smaller than 3 cm. Thirty-eight shoulders (66.6%) presented lesions larger than 3 cm and 20 (35.4%), smaller. Among the lesions of traumatic origin, seven were larger than 3 cm and eight were smaller.

Fifty-three shoulders (91.4%) required only one revision procedure and five (8.7%), more than one revision.

The patients' mean age was 63.6 years (range: 42-92). Thirty-one patients (53.4%) were male and 26 (46.6%) were female. Forty-seven shoulders (82.5%) were affected on the right side and 11 (17.5%) on the left side. The dominant limb was affected in 48 (84.2%) shoulders. One patient was

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