REV BRAS ORTOP. 2016;xxx(xx):xxx–xxx

SOCIEDADE BRASILEIRA DE ORTOPEDIA E TRAUMATOLOGIA

RBO REVISTA BRASILEIRA DE ORTOPEDIA

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Original article

Clinical evaluation of arthroscopic treatment of shoulder adhesive capsulitis☆

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ARTICLE INFO

Article history:
Received 29 October 2015
Accepted 11 April 2016
Available online xxx

Keywords:
Shoulder pain
Arthroscopy
Bursitis

ABSTRACT

Objective: To evaluate the results of arthroscopic releases performed in patients with adhesive capsulitis refractory to conservative treatment.

Methods: This was a retrospective study, conducted between 1996 and 2012, which included 56 shoulders (52 patients) that underwent surgery; 38 were female, and 28 had the dominant side affected. The mean age was 51 (29–73) years. The mean follow-up was 65 (12–168) months and the mean preoperative time was 8.9 (2–24) months. According to Zukermann's classification, 23 cases were considered primary and 33 secondary. With the patient in the lateral decubitus position, circumferential release of the joint capsule was performed: joint debridement; rotator interval opening; coracohumeral ligament release; anterior, posterior, inferior, and finally antero-inferior capsulotomy. A subscapularis tenotomy was performed when necessary. All patients underwent intense physical therapy in the immediate postoperative period. In 33 shoulders, an interscalene catheter was implanted for anesthetic infusion. Functional results were evaluated by the UCLA criteria.

Results: Improved range of motion was observed: mean increase of 45° of elevation, 41° of external rotation and eight vertebral levels of medial rotation. According to the UCLA score excellent results were obtained in 25 (45%) patients; good, in 24 (45%); fair, in two (3%); and poor, in two (7%). Patients who had undergone inferior capsulotomy achieved better results. Only 8.8% of patients who used the anesthetic infusion catheter underwent postoperative manipulation. Seven patients had complications.

Conclusion: There was improvement in pain and range of motion. Inferior capsulotomy leads to better results. The use of the interscalene infusion catheter reduces the number of reapproaches.

☆ Study conducted at the Faculdade de Ciências Médicas da Santa Casa de São Paulo (FCMSCSP), Departamento de Ortopedia e Traumatologia, Grupo de Cirurgia do Ombro e Cotovelo, São Paulo, SP, Brazil.

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http://dx.doi.org/10.1016/j.rboe.2016.12.004

Please cite this article in press as: Miyazaki AN, et al. Clinical evaluation of arthroscopic treatment of shoulder adhesive capsulitis. Rev Bras Ortop. 2016. http://dx.doi.org/10.1016/j.rboe.2016.12.004

Avaliação dos resultados do tratamento artroscópico da capsulite adesiva do ombro

Palavras-chave:
Dor de ombro
Artroscopia
Bursite

RESUMO

Objetivo: Avaliar os resultados das liberações artroscópicas feitas em pacientes com capsulite adesiva refratária ao tratamento conservador.

Métodos: Trabalho retrospectivo feito entre 1996 e 2012, com 56 ombros (52 pacientes) submetidos a cirurgia; 38 eram do sexo feminino e 28 tinham o lado dominante acometido. A média de idade foi de 51 (29-73) anos. O seguimento médio, de 65 (12-168) meses e o tempo médio de pré-operatório, de 8,9 (2-24) meses. Pela classificação de Zukermann, 23 casos foram considerados primários e 33 secundários. Com o paciente em decúbito lateral, fizemos a liberação circunferencial da cápsula articular: desbridamento articular, abertura do intervalo rotador, liberação do ligamento coracoumeral, capsulotomia anterior, posterior, inferior e finalmente, anteroinferior. A tenotomia do subescapular foi feita quando necessária. Todos foram submetidos a fisioterapia intensa no pós-operatório imediato. Em 33 ombros foi implantado o catéter interescalênico para infusão de anestésico. Os resultados funcionais foram avaliados pelos critérios do escore da *University of California at Los Angeles* (UCLA).

Resultados: Obtivemos melhoria do arco de movimento: aumento médio de 45° de elevação, 41° de rotação lateral e oito níveis vertebrais de rotação medial. Pelo escore da UCLA, tivemos 25 resultados excelentes (45%), 25 bons (45%), dois razoáveis (3%) e quatro ruins (7%). Os pacientes que fizeram capsulotomia inferior evoluíram melhor do que os que não fizeram. Apenas 8,8% dos pacientes que usaram cateter de infusão anestésico foram submetidos a manipulação no pós-operatório. Sete pacientes apresentaram complicações.

Conclusão: Houve melhoria da dor e do arco de movimento. A capsulotomia inferior leva a melhores resultados. O uso do catéter interescalênico de infusão anestésica diminui o número de reabordagens.

Introduction

The term "adhesive capsulitis" was first described by Neviaser in 1945, as an inflammatory disease of the shoulder joint capsule that develops with contracture and results in stiffness and pain.[1]

Treatment aims to control pain and recover range of motion. Initially, treatment is conservative, especially in the acute phase[2,3]; there are several therapeutic options, such as physical therapy, corticosteroids and/or non-steroidal anti-inflammatory drugs (NSAIDs), and suprascapular nerve blocks.[4–7] In review articles, Checchia et al.[7] and Robinson et al.[5] demonstrated good results when treating patients with physical therapy associated with anti-inflammatory drugs (hormonal and non-hormonal) and serial suprascapular nerve blocks.

Invasive treatment is indicated in case of failure of conservative treatment conducted for a minimum period of six months; however, according to the literature reviewed, this interval may range from six weeks to 12 months.[8–13] Procedures described as invasive include hydraulic distention of the capsule (the literature differ on its effectiveness due to high recurrence rates), joint manipulation under anesthesia, and capsular release, which can be done through open or arthroscopic surgery.[4–6,14]

Joint manipulation under anesthesia, which was once widely used, is currently being discontinued due to its complications: fractures, glenoid labrum injuries, neurapraxis, rotator cuff tear, and persistent pain.[14–17]

One of the first descriptions of the surgical technique for shoulder release through the open access route was made by Ozaki et al.,[18] who advocated resection of the coracohumeral ligament and opening of the rotator interval. Literature shows that open surgery presents good results, but adds a greater morbidity than arthroscopy: it is difficult to release the posterior capsule and the intraoperative bleeding is greater, as well as postoperative pain, which extends hospital stay; furthermore, it is necessary to restrict movements until the subscapularis tendon heals.[4,5,8,14,19]

Recent studies have shown excellent results, both in terms of pain relief and range of motion gain, with arthroscopic release of adhesive capsulitis. It is currently considered to be a reproducible method, which enables better access to the entire joint capsule of the shoulder with low rates of complications, since the release is done gradually under direct vision through a minimally invasive method, which nonetheless requires proper training.[8–11,19–21] Literature mentions as complications of this procedure the risk of iatrogenic injury to the axillary nerve,[22] chondral lesion due to the insertion of the instruments in a joint with reduced space,[9] and

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