



ORIGINAL ARTICLE

A prospective study of 138 arthroscopies of the temporomandibular joint^{☆,☆☆}



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articular disk

Abstract

Introduction: Internal derangements (ID) of the temporomandibular joint (TMJ) have a multifactorial etiology and are most often treated conservatively by splints, physical therapy and medications. Only in 2–5% of cases are the treatment surgical, either by arthroscopy or arthrotomy.

Objective: To evaluate improvement of mouth opening, pain relief during function, position of the articular disk and complications following Arthroscopic Lyse and Lavage (ALL).

Methods: A prospective study of 78 patients (138 TMJs) with TMJ ID, 5 males and 73 females, mean age 29.7 years, treated between January 2010 and April 2013, who were refractory to conservative treatment, had limited mouth opening and pain localized to the TMJ during function, and who were submitted to TMJ ALL and followed for a period of 12 months, with periodic reviews.

Results: ALL was effective in 93.6% of cases, with 85.3% experiencing improvement in mouth opening and 91.2% in pain reduction during function, 63% improvement in disk position and a rate of complications of 6.2%.

Conclusion: In this study the ALL exhibited a high rate of success with low morbidity in internal derangements of the TMJ.

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PALAVRAS-CHAVE

Artroscopia;
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Disco da articulação
temporomandibular;
Síndrome da
disfunção da
articulação
temporomandibular

Estudo prospectivo de 138 artroscopias da articulação temporomandibular**Resumo**

Introdução: Os desarranjos internos (DI) da articulação temporomandibular (ATM), possuem etiologia multifatorial, sendo tratados na maioria das vezes de forma conservadora através *splints*, fisioterapia e medicamentos. Apenas 2% a 5% dos casos tem indicação cirúrgica, seja através de artroscopia ou artrotomia.

Objetivo: Avaliar melhora da abertura bucal, melhora da dor, posicionamento do disco articular e complicações pós Lise e Lavagem Artroscópica (ALL).

Método: Estudo prospectivo com uma série de 78 pacientes (138 ATMs) com DI da ATM, sendo 5 homens e 73 mulheres, com média etária de 29,7 anos, atendidos entre janeiro de 2010 e abril de 2013, refratários ao tratamento conservador, apresentando limitação de abertura bucal e dor localizada em ATM em função, sendo submetidos à ALL da ATM e acompanhados por um período de 12 meses, com avaliações periódicas.

Resultados: A ALL foi eficiente em 93,6% dos casos estudados, com 85,3% melhora na abertura bucal e 91,2% na redução da dor em função, 63% de melhora na posição discal em RM de controle e índice 6,2% de complicações.

Conclusão: No presente estudo a ALL mostrou-se um tratamento com um alto índice de sucesso, com baixa morbidade, nos desarranjos internos da ATM.

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Introduction

Internal disorders (ID) of the temporomandibular joint (TMJ) have a multifactorial etiology, and their treatment constitutes a significant challenge for clinicians and surgeons. For years, these disorders were treated conservatively, mostly by the use of splints and anti-inflammatory agents. Surgical treatment is indicated in only 2–5% of cases, and in most cases it is performed by arthrotomy. In 1975, Ohnishi¹ was the first surgeon to use an arthroscope in TMJ, when this author studied its movements and arthroscopic anatomy. In the 80s, several authors^{2–5} contributed to the development of TMJ arthroscopy, with descriptions of various techniques and an understanding of the internal changes viewed arthroscopically. From the end of the 80s to now, there has been great progress in arthroscopy, mainly due to a better quality of magnetic resonance imaging (MRI) studies and also to an understanding of the pathophysiology of ID. Bronstein and Merrill⁶ correlated the stages of Wilkes⁷ with their arthroscopic findings; Nitzan and Etsion⁸ reported on the interrelationship of the lubrication process and articular disk displacement; others developed and introduced several arthroscopic techniques, with excellent results, such as disk suture,^{9,10} co-ablation with radiofrequency,^{11,12} laser ablation,¹² drug injection,¹² disk fixation,¹³ and eminectomy.¹⁴

Arthroscopic Lyse and Lavage (ALL) was first described in the literature as “Lysis” by Sanders⁴ in 1986. In 1992, in a multicenter US study, results of 4861 TJM arthroscopic procedures were collected, and among all techniques performed, 85% were ALL. Thus, ALL was noted to be the most frequently performed procedure in TMJ arthroscopy and was reported to have a global improvement index of 91.3%.¹⁵ With this technique, fibrosis and adhesions are disrupted by instrumentation through the working cannula, while

maintaining a continuous flow of 0.9% saline or Ringer’s solution. Thus, the product of the breakdown of adhesions and also its inflammatory components are eliminated, promoting a better anatomical and physiological condition and allowing better mobilization of TMJ and decreased pain.¹⁶ The aim of this study was to evaluate the success rate of the arthroscopic lysis and lavage (ALL) procedure in patients with TMJ internal disorders, in relation to improving the oral opening, decreasing pain symptoms, articular disk positioning in the post-procedural MRI, and complications of the technique.

Methods

This study was approved by the Institution’s Research and Ethics Committee (CEP), Protocol 121/2013. Seventy-eight patients (58 bilateral and 22 unilateral, totaling 138 ATMs) (Table 1), 5 males and 73 females, of 16–55 years (mean, 29.7 years), treated between January 2010 and April 2013, were included in this prospective study. All participants met the inclusion criteria: limitation of mouth opening and/or localized pain in function which was refractory to conservative treatment with myorelaxant splint, physical therapy and medications. The diagnosis of TMJ internal disorder (ID) was performed by clinical examination, with mouth opening measurement with the use of a specific millimeter ruler – Therabite scale (Great Lakes Orthodontics, Tonawanda, NY, USA); Visual Analog Scale (VAS) for auto-informed subjective pain assessment, with scores ranging from 0 to 10 (0 = no pain, 10 = severe pain); Joint Load Test consisting of interposition of two wooden spatulas between the posterior teeth contralateral to the TMJ under consideration; in case of pain, the test reveals some degree of inflammation; and by magnetic resonance imaging (MRI). Comorbidities were investigated with the help of laboratory tests, taking into

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