



Original article

Open versus arthroscopic approach in the treatment of femoroacetabular impingement: a case–control study with two-years follow up[☆]



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ABSTRACT

Objective: To compare clinical and imaging results and complications between patients treated for femoroacetabular impingement (FAI) who underwent either anterior open surgery or an arthroscopic approach, with a minimum follow-up of two years.

Methods: This retrospective case–control study included patients submitted to FAI surgical treatment between November 2007 and March 2012. Patients treated with open surgery were compared with those treated with arthroscopy. Patients were clinically assessed by the modified Harris Hip Score, Non-Arthritic Hip Score, and internal hip rotation. Patients were radiographically assessed by the center-edge angle, joint space width, alpha angle, neck-head index, degree of arthrosis, and presence of heterotopic ossification of the hip.

Results: In the study period, 56 patients (58 hips) with FAI were included; 16 underwent open surgery and 40 underwent arthroscopy. The 40 patients treated by the arthroscopic route had a mean follow-up of 29.1 months, and 75.6% presented good or excellent clinical results. The radiographic evaluation parameters progressed to normal levels. The 16 patients who underwent open surgery had a mean follow-up of 52 months, and 70.58% presented good or excellent clinical results. The radiographic evaluation parameters progressed to normal levels. Postoperative clinical and radiographic results were considered similar in both groups.

Conclusions: Arthroscopy and open surgery treatments for FAI provided comparable clinical and radiographic results. However, a higher rate of complications was observed in the open surgery group.

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Abordagem anterior aberta versus artroscópica no tratamento do impacto femoroacetabular: estudo caso-controle com seguimento mínimo de dois anos

R E S U M O

Palavras-chave:

Articulação do quadril
Impacto femoroacetabular
Lesões do quadril
Osteoartrite

Objetivos: Comparar os resultados clínicos e radiográficos, bem como as complicações observadas em pacientes submetidos ao tratamento cirúrgico, devido a impacto femoroacetabular, sob abordagem artroscópica ou anterior aberta, com seguimento mínimo de dois anos.

Métodos: Estudo caso-controle retrospectivo, com pacientes operados entre novembro de 2007 e março de 2012 e que foram submetidos a tratamento cirúrgico de impacto femoroacetabular. Pacientes submetidos à abordagem aberta foram comparados com pacientes submetidos à abordagem artroscópica. Os pacientes foram avaliados clinicamente pelos escores clínicos *Harris Hip* modificado, *Non Arthritic Hip* e quanto à rotação interna do quadril. Os pacientes foram avaliados radiograficamente, aferiram-se o ângulo centro-borda, a dimensão do espaço articular, o ângulo alfa, o índice colo-cabeça, o grau de artrose e a presença de ossificação heterotópica do quadril.

Resultados: Foram incluídos no estudo 56 pacientes, 16 submetidos à abordagem aberta e 40 à artroscópica. Os 40 pacientes tratados por via artroscópica foram seguidos por, em média, 29,1 meses, 75,6% apresentaram resultados clínicos bons ou excelentes. Quanto à avaliação radiográfica, observou-se correção para índices considerados normais. Os 16 pacientes operados por via aberta obtiveram seguimento médio de 52 meses, 70,58% apresentaram resultados clínicos bons ou excelentes. Quanto à avaliação radiográfica, observou-se correção para índices considerados normais. Os resultados clínicos e radiográficos pós-operatórios foram considerados semelhantes em ambos os grupos.

Conclusão: Os resultados clínicos e radiográficos do tratamento artroscópico do impacto femoroacetabular foram comparáveis aos resultados do tratamento aberto. Observamos um maior número de complicações no grupo aberto.

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Introduction

Femoroacetabular impingement (FAI) is now recognized as a common cause of hip pain in the young population, with possible degenerative consequences.^{1,2} Both the known impact mechanisms (cam or inclusion, and pincer or impaction) are associated with pain, restricted range of motion, and decreased exercise tolerance.³ Currently, several studies have suggested that some cases that were previously considered as idiopathic hip osteoarthritis are secondary to FAI.⁴⁻⁸

Conservative treatment can be attempted initially; it consists of modifying high-impact physical activities, avoiding weighted exercises associated with excessive flexion and torsion movements that increase joint demand, and, finally, the use of anti-inflammatory medications. Surgical treatment is indicated in cases when conservative treatment brings only temporary relief.^{9,10} Some authors claim that, since it is a mechanical condition, delaying surgical treatment of the FAI may not be beneficial to the patient. However, there is still no consensus in the literature regarding this subject.^{1,2,10,11}

Surgical treatment options for FAI include open surgical correction with posterior hip dislocation (Ganz approach), anterior hip approaches (Smith-Petersen, Hueter, Somerville, and anterior extensible, among others),

videoarthroscopic surgery, and a combination of arthroscopic technique and anterior mini-incision.¹⁻⁹

The present study aimed to compare the clinical and radiographic results and the complications related to patients who underwent surgical treatment of FAI performed by the Hip Surgery Group of this institution using the arthroscopic or anterior open (iliofemoral) approach, with a minimum two year follow-up.

Material and methods

This was a retrospective case-control study that included patients who underwent arthroscopic and open FAI treatment, performed by the Hip Surgery Group, operated consecutively between November 2007 and March 2012. During this period, 62 patients (64 hips) underwent this treatment; all arthroscopic surgeries were performed by the same surgeon (BDR) through the extracapsular approach¹² and, similarly, all open surgeries were performed by the same surgeon (MVR) through the iliofemoral approach. Exclusion criteria for this study were: patients with isolated pincer-type IFA (four cases), losses to follow-up (one case), and follow-up of less than two years (one case). All patients were called in for a reassessment. The study was approved by the Research Ethics Committee.

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