



Original article

Total hip arthroplasty using a posterior minimally invasive approach – results after six years[☆]



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ABSTRACT

Objective: To evaluate the medium-term clinical–functional results (minimum follow-up of six years) from total uncemented hip arthroplasty performed by means of a posterior minimally invasive access, in comparison with the traditional right lateral access.

Methods: In a comparative prospective study, 224 adult patients underwent elective total hip arthroplasty due to a diagnosis of primary or secondary osteoarthritis. A group of 103 patients with posterior minimally invasive access was compared with a group of 121 patients with the traditional right lateral access. The mean length of follow-up among the patients of this sample was 7.2 years. We evaluated the clinical–functional and radiographic results and occurrences of loosening, along with any complications that occurred, with a minimum follow-up of six years.

Results: The clinical–functional analyses before the surgical procedure and six years afterwards were similar in the two groups ($p=0.88$ and $p=0.55$). One patient in the minimally invasive group underwent revision of the acetabular component and two patients in the control group underwent the same procedure ($p=0.46$). The Trendelenburg clinical test, which showed weakness of the hip abductor musculature, was present in five patients operated using the traditional lateral route and absent in all those who underwent the minimally invasive procedure ($p=0.06$). There was no difference regarding the radiographic parameters obtained, either in acetabular or in femoral positioning ($p=0.32$ and $p=0.58$).

Conclusions: The medium-term clinical and radiographic results and the complication rates were similar between the patients who underwent total hip arthroplasty by means of the posterior minimally invasive access and those with the traditional lateral access.

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Artroplastia total do quadril feita por via posterior minimamente invasiva – Resultados após seis anos

R E S U M O

Palavras-chave:

Osteoartrite do quadril
Artroplastia de quadril
Procedimentos cirúrgicos
minimamente invasivos

Objetivo: Avaliar o resultado clínico-funcional em médio prazo (seguimento mínimo de seis anos) da artroplastia total do quadril não cimentada feita por acesso minimamente invasivo (MIS) posterior comparado ao acesso lateral direto (LD) tradicional.

Métodos: Em um estudo comparativo prospectivo, 224 pacientes adultos foram submetidos à artroplastia total do quadril em caráter eletivo, por diagnóstico de osteoartrose primária ou secundária, e se comparou o grupo MIS posterior (103 pacientes) com o grupo acesso LD tradicional (121). A média de tempo de seguimento dos pacientes da amostra foi 7,2 anos. Avaliamos os resultados clínico-funcionais e radiográficos e a ocorrência de solturas, assim como complicações ocorridas com um seguimento mínimo de seis anos.

Resultados: A análise clínico-funcional antes e seis anos após o procedimento cirúrgico foi semelhante nos dois grupos ($p=0,88$ e $p=0,55$). Um paciente do grupo MIS foi submetido à revisão do componente acetabular e dois do grupo controle foram submetidos ao mesmo procedimento, $p=0,46$. O teste clínico de Trendelenburg, que evidenciou uma fraqueza da musculatura abduutora do quadril, estava presente em cinco pacientes operados pela via lateral tradicional e ausente em todos os submetidos ao MIS ($p=0,06$). Não houve diferença quanto aos parâmetros radiográficos obtidos tanto do posicionamento acetabular quanto do femoral ($p=0,32$, $p=0,58$).

Conclusões: Os resultados em médio prazo, clínicos e radiográficos, e a taxa de complicações foram semelhantes entre os pacientes submetidos à artroplastia total do quadril pelo acesso posterior minimamente invasivo e pela via lateral tradicional.

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Introduction

Total hip arthroplasty performed by means of a minimally invasive access emerged because of the trend observed in other fields of surgery. It had the aims of ensuring better results, fewer complications, less perioperative morbidity and a lower cost burden for public and private healthcare service providers.^{1,2}

Several studies have shown that a minimally invasive access can lead to better recovery in the immediate postoperative period, with less pain, less bleeding during the hospital stay, less muscle injury and, consequently, shorter hospital stay.³⁻⁵

However, in comparing traditional and minimally invasive surgical accesses, other authors have shown similar short-term results, without any real benefit.^{6,7} Some authors have even warned of higher complication rates and risks with some minimally invasive accesses, such as a single anterior access, and have reported unusual complications and prolonged duration of surgery, along with long learning curves.^{8,9}

Our objective here was to assess the clinical and functional results over the medium term (minimum follow-up of six years) and the complications from uncemented total hip arthroplasty performed by means of a posterior minimally invasive access, in comparison with a traditional right lateral access.

Material and methods

After obtaining approval from our institution's research ethics committee, a prospective comparative study was conducted in which 224 adult patients underwent elective total hip arthroplasty due to a diagnosis of primary or secondary osteoarthritis. The patients were selected from the waiting list of our hospital's Hip Group.

The samples are described in Table 1.

Randomization was performed by means of a sequence of random numbers, with division into two groups at the time of making the surgical appointments. This was done by a surgeon who was not directly involved in this study, without the knowledge of the surgeon who was the first author. In the first group, the posterior access first described by Moore was used, with small-sized incisions and minimal dissection of soft tissues. In the patients of the control group, the traditional right

Table 1 – Sample parameter.

	Minimally invasive group	Control group	p value
Mean age	56.1 years	55.8 years	0.85
Sex (male/female)	55/48	69/52	0.59
Side (right/left)	52/51	62/59	1
Body mass index (BMI)	27.7	27.1	0.4

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