

ORIGINAL ARTICLE

**Factors associated with lumbar disc hernia recurrence  
after microdiscectomy<sup>☆</sup>**



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**KEYWORDS**

Microdiscectomy;  
Lumbar disc  
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**Abstract**

*Introduction:* Lumbar disc hernias are a common cause of spinal surgery. Hernia recurrence is a prevalent complication.

*Objective:* To analyse the risk factors associated with hernia recurrence in patients undergoing surgery in our institution.

*Materials and methods:* Lumbar microdiscectomies between 2010 and 2014 were analysed, patients with previous surgeries, extraforaminales and foraminal hernias were excluded. Patients with recurrent hernia were the case group and those who showed no recurrence were the control group.

*Results:* 177 patients with lumbar microdiscectomy, of whom 30 experienced recurrence (16%), and of these 27 were reoperated. Among the risk factors associated with recurrence, we observed a higher rate of disc height, higher percentage of spinal canal occupied by the hernia and presence of degenerative facet joint changes; we observed no differences in sex, body mass index or age.

*Discussion:* Previous studies show increased disc height and young patients as possible factors associated with recurrence.

*Conclusion:* In our series we found that the higher rate of disc height, the percentage of spinal canal occupied by the hernia and degenerative facet joint changes were associated with hernia recurrence.

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**PALABRAS CLAVE**

Microdissectomía;  
Hernia discal lumbar;  
Recidiva herniaria

## Factores asociados a recidiva de hernia de disco lumbar luego de una microdissectomía

**Resumen**

**Introducción:** Las hernias de disco lumbares son una causa frecuente de cirugía lumbar. La recurrencia herniaria es una complicación prevalente.

**Objetivo:** Analizar los factores de riesgo asociados a recurrencia herniaria en pacientes intervenidos por hernia discal lumbar en nuestra institución.

**Materiales y métodos:** Se analizaron en forma retrospectiva una serie de 177 microdissectomías lumbares entre 2010 y 2014; se excluyeron pacientes con cirugías previas, hernias foraminales y extraforaminales. Los pacientes con recurrencia herniaria constituyeron el grupo de casos y los que no presentaron recurrencia fueron el grupo control; se analizó: sexo, edad, índice de masa corporal, nivel, degeneración facetaria, altura discal y protrusión discal.

**Resultados:** Hubo 177 pacientes con microdissectomía lumbar, de los cuales 30 (16%) presentaron recurrencia herniaria; de ellos, 27 fueron reoperados. Entre los factores de riesgo asociados a recurrencia observamos mayor índice de altura discal, mayor porcentaje de canal ocupado por la hernia y mayor presencia de cambios degenerativos facetarios; no observamos diferencias en cuanto al sexo, índice de masa corporal y edad.

**Discusión:** Estudios previos muestran el aumento de altura discal y pacientes jóvenes como posibles factores asociados a recidiva.

**Conclusión:** En nuestra serie encontramos que el mayor índice de altura discal, el porcentaje de canal ocupado por la hernia y los cambios degenerativos facetarios se asociaron a recurrencia herniaria.

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**Introduction**

Lumbar disc hernia is a common spinal pathology, and is the main cause of spinal surgery.<sup>1</sup> It is more prevalent in men than in women (2:1 ratio) between the ages of 30 and 50, with the levels most frequently affected being L4-L5 and L5-S1. Its physiopathology is unknown but it is known that intrinsic factors present (hereditary, developmental and degenerative) as do extrinsic factors (nutrition, pressure, trauma, etc.).<sup>2</sup>

Lumbar microdissectomy continues to be one of the most commonly used surgical procedure in U.S.A., with a good outcome rate in 90–95%.<sup>3,4</sup>

Among the most prevalent complications (5–15%)<sup>6–8</sup> are the recurrence of the discal hernia (defined as new herniation at this level, then an equal or greater symptomatic interval at 6 months<sup>5</sup>).

It has not been clearly demonstrated whether previous degenerative changes, disc height or herniated disc volume are factors which predispose the development of a new hernia after carrying out a microdissectomy.<sup>9–11</sup>

The main objective of this study was to compare the factors associated with lumbar disc recurrence in patients who had undergone surgery for disc recurrence (cases) vs patients with microdissectomy with no recurrence (control group). The secondary objective was to analyse the intra-operative and postoperative complications and the rate of re-intervention in patients operated on for herniated disc.

**Material and methods****Study sample**

A retrospective study of 177 patients with disc herniation who underwent surgery in our centre between January 2010 and December 2014.

Patients aged 18 or over were included, with a diagnosis of central lumbar or posterolateral disc hernia, who had undergone surgery with simple microdissectomy, with a minimum follow-up of one year.

Patients who had undergone previous surgery on the lumbar region, or associated procedures such as fixation, or decompression at more than one level were excluded. Foraminal and extraforaminal hernias were excluded. Patients with radicular compression at the expense of osseous components (facet hypertrophy) who required partial foraminotomy and facetectomy were also excluded.

**Surgical technique**

All operations were carried out by the surgical team in our centre. In all cases a simple microdissectomy was performed. This study was conducted by physicians trained in spine conditions who had not participated in the operations.

Surgical technique: with the patient under general anaesthesia, they were positioned in ventral decubitus position

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