

## **Case Report**

# Lumbar stenosis: clinical case $^{\bigstar, \bigstar \bigstar}$

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#### ABSTRACT

Lumbar stenosis is an increasingly common pathological condition that is becoming more frequent with increasing mean life expectancy, with high costs for society. It has many causes, among which degenerative, neoplastic and traumatic causes stand out. Most of the patients respond well to conservative therapy. Surgical treatment is reserved for patients who present symptoms after implementation of conservative measures. Here, a case of severe stenosis of the lumbar spine at several levels, in a female patient with pathological and surgical antecedents in the lumbar spine, is presented. The patient underwent two different decompression techniques within the same operation.

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#### Estenose lombar: caso clínico

#### RESUMO

A estenose lombar é uma patologia cada vez mais frequente, que acompanha o aumento da esperança média de vida e que comporta custos elevados para a nossa sociedade. Apresenta inúmeras causas, entre as quais destacam-se a degenerativa, a neoplásica e a traumática. A maioria dos pacientes responde bem à terapêutica conservadora. O tratamento cirúrgico está reservado para aqueles doentes que apresentem sintomatologia após a implementação de medidas conservadoras. É apresentado um caso de estenose grave da coluna lombar em vários níveis, numa doente do sexo feminino com antecedentes patológicos/cirúrgicos da coluna lombar, na qual foram aplicadas duas técnicas distintas de descompressão, no mesmo ato cirúrgico.

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### Introduction

Lumbar stenosis is defined as a pathological narrowing of the vertebral canal and/or intervertebral foramens that leads to compression of the thecal sac and/or the nerve roots. It may be confined just to one segment (two adjacent vertebrae and the intervertebral disc, joint facets and corresponding ligaments) or, in situations of greater severity, it may encompass two or more segments<sup>1</sup> and present several etiologies.

As mean life expectancy increases, people of greater age are presenting active lifestyles. Consequently, functional limitation and pain caused by symptomatic degenerative pathological conditions of the spine have become more frequent and lumbar stenosis has become an important disease.

The main clinical manifestations are lumbalgia, generally associated with irradiation to the lower limbs, and neurogenic claudication.

Radiological examinations, especially lumbar X-rays, computed tomography (CT) and magnetic resonance imaging (MRI), are useful and essential tools for diagnosing and characterizing lumbar stenosis.

Therapy for this condition continues to be a clinical challenge, with various options available.

#### **Case report**

The patient was a 53-year-old white female who was observed in an orthopedic outpatient consultation with a complaint of lumbalgia in the L5–S1 region in situations of constant loading, with irradiation to both legs. The condition had been evolving for around two years, despite conservative therapy consisting of analgesia, NSAIDs, muscle relaxants and physiotherapy, which had been instituted by the family doctor. The patient reported having neurogenic claudication. She did not have any previous history of trauma.

She reported having personal antecedents of a disc hernia, which was present in two segments of the lumbar spine (L3–L4 and L4–L5), and having undergoing classical lumbar discectomy.

On physical examination, she presented pain on palpation of the lumbar spine apophyses and paravertebral masses. She was bilaterally positive for Lasègue's sign. A neurological examination revealed a foot inclined to the right.

Lumbar MRI showed a bulging intervertebral disc, hypertrophy of the joint facets and yellow ligaments at the levels L2–L3, L3–L4, L4–L5 and L5–S1, which caused narrowing of the spinal canal, with impairment of the roots of L4, L5 and S1



Fig. 1 – MRI of the lumbar spine (sagittal slice), in which lumbar stenosis can be seen at L2–S1.

(Figs. 1 and 2A and B). Electromyography was also performed on the lower limbs, and this revealed severe radiculopathy at L5 and S1.

From this, a diagnosis of lumber stenosis at L2–L3, L3–L4, L4–L5 and L5–S1 was established, associated with neurological deficits, and surgical treatment was proposed. The patient underwent lumbar recalibration of L2–L3 and L3–L4 by means of the Senegas technique at L4–L5 and L5–S1 with laminectomy and fixation using transpedicular screws and posterolateral arthrodesis, with an autologous bone graft (Fig. 3).

The patient presented regression of the neurological deficits after the operation. Currently, she is being followed up as an outpatient and is asymptomatic.

#### Discussion

The incidence of lumbar stenosis in the general population is between 1.7% and 8%, and it increases from the fifth decade of life onwards.<sup>2</sup>

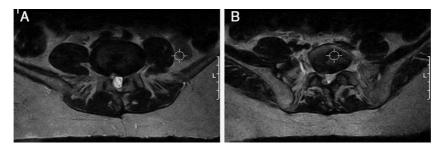


Fig. 2 – MRI of lumbar spine (axial slice), in which narrowing of the spinal canal can be seen at the levels (A) L4–L5 and (B) L5–S1.

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