

LUMBAR DISC HERNIATION SURGERY: NOT ALWAYS AN EASY DECISION

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Abstract: The lumbar disc herniation may sometimes have atypical symptoms and it can be a challenge for the surgeon. We present the case of a 37-year-old female admitted with symptoms of clinical features of sciatica and the magnetic resonance imaging (MRI) of the lower spine revealed an inferior migration of the contralateral herniated L5-S1 disc. The surgical intervention was accomplished from the side of disc herniation without exploring or decompressing the symptomatic side. The symptoms and signs resolved in the immediate postoperative period. Sometimes, the symptoms can be caused by contralateral lumbar disc herniation and the operative decision can be difficult in this situation.

INTRODUCTION

The disc herniation is the most common degenerative abnormality of the lumbar spine, and it is the most frequent cause of spinal surgery. The typical clinical picture associate back and leg pain due to nerve root compression secondary to a lumbar disc rupture. Because of the various clinical presentations of acute or chronic forms, a careful analysis of atypical forms is needed in order to make a minutious differential diagnosis. Adequate physical examination and imaging is essential for the diagnosis and the decision of the therapeutic approach.(1)

Clinicians recommend waiting 5 to 8 weeks after the characteristic symptoms of a herniated lumbar disc before considering surgery. A conservatory treatment should be based on the limitation of physical strain, administration of nonsteroidal anti-inflammatory drugs, followed after the acute phase by physiotherapy procedures and medical gymnastics.

A surgical treatment is recommended if one of the following complications arises: progressive motor deficit, intolerable pain despite the use of an adequate medication, cauda equina syndrome or unwillingness of the patient to invest time in non-surgical treatment.

CASE PRESENTATION

We bring forward the case of a 37-year-old female patient, with no significant medical history, admitted to the Neurosurgery ward with intense lower back pain irradiating in the left lower limb, associated to decreased left lower leg muscle strength. The beginning of this clinical condition was insidious, occurring approximately 2 years before admission to the hospital, with a gradual progression of the symptoms and sudden worsening during the past 4 days and non-responsive to a symptomatologic treatment.

On clinical neurological examination, the patient had significant difficulty in sustaining prolonged standing position, with slight forward tilting of the trunk caused by intense lumbar

pain, and bilateral difficulties of walking on the heels and on the toes, but more important for the left lower limb.

There was no evidence of lesions, local trauma, malformations, or superficial causes of pain at the local inspection of the lumbar region.

The straight leg raising test performed was generating bilateral pain, radiating down the buttock and leg at an elevation angle of roughly 45 degrees.

MRI of the lumbar spine was performed, revealing a right lumbar disc herniation L5-S1 with an inferior migration of the herniated L5-S1 disc (figures no.1,2,3).

The elected surgical procedure was right L5-S1 interlaminar approach with right S1 foraminotomy followed by the ablation of the right L5-S1 herniated disc.

Figure no. 1. MRI T1 Sag



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Figure no. 2. MRI T2WI Sag-



Figure no. 3. MRI T2WI Tra -

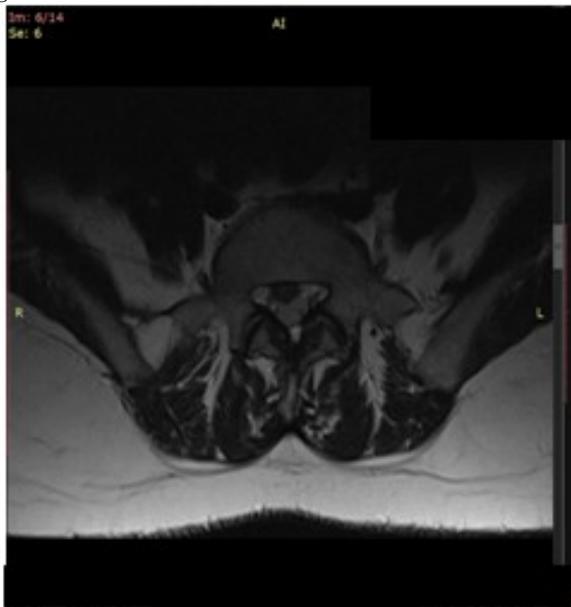
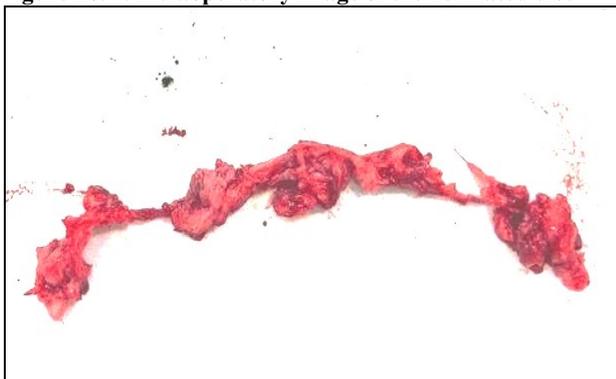


Figure no. 4. Intraoperative image of the herniated disc



There were no local or general complications during postoperative recovery, and the symptoms and signs resolved in the immediate postoperative period.

DISCUSSIONS

The clinical presentation of the lumbar disc herniation sometimes can be atypical and it is not rare to see in the daily practice a patient with disk herniation and contralateral symptoms.

Asan described in 2018, 27 cases of lumbar disc herniation with radicular symptoms on the opposite side. In 8 of the cases a surgical intervention was performed on the side where the disc herniation was identified by imaging with a favorable evolution.

In 1 case, a partial medial facetectomy with discectomy was done, and in 1 case, a bilateral microdiscectomy was performed. For the patients where a motor deficit was not detected and they were responsive for the conservative treatment, a surgical treatment was not applied.(2)

There were some cases reported on patients with lumbar disc herniation and contralateral symptoms with a good postoperative outcome, but in all cases the patients were operated from both sides of the canal. In these cases, it is difficult to know whether the relief of symptoms were related to the removal of herniated discs or to the decompression of the symptomatic side.(3,4)

Choudhury et al. have presented three cases of lumbar radiculopathy contralateral to a disc herniation and they have performed a total laminectomy and facetectomy at two levels as well as removal of the herniated disks.(5)

Sucu et al. have described for the first time in 2005, five patients with lumbar herniated disc and contralateral symptoms and in all patients, herniated discs were removed without intervention to the contralateral side.

Resolution of symptoms and signs after the surgery proves that lumbar disc herniations can cause dominantly contralateral symptoms, and that the intervention to the contralateral side is unnecessary.(6)

For the moment, the pathophysiological mechanism is unknown. There were several hypotheses described: Kornberg has suggested that in the absence of the dural ligaments, the ipsilateral nerve root can simply be displaced posteriorly without being compressed significantly, while the contralateral nerve root is shifted laterally into the lateral recess, where it is exerted to significant contact force.(2)

Sucu hypothesizes that the contralateral findings may be related to traction forces rather than contact forces. When the projection of the apex is at the midpoint of the base of a paramedian disk herniation (symmetric disc herniation), the traction generated on both nerve roots is expected to be equal.(4,7,8)

Actually, there are not enough cases described of lumbar disc herniation and contralateral symptoms, even if they are frequent in the daily practice. The cases reports show that the surgical intervention on the side of the disc herniation can be sufficient for the reveal of the symptomatology.

CONCLUSIONS

Back pain is among the most frequent medical complaints, of the adult population, so that it has become one of the top expensive health problems and a leading cause of disability amongst the young population.

Lumbar disc herniation may be sometimes associated with contralateral symptoms and the surgical decision can be difficult.

The physical examination and imaging is very important for the diagnosis and the decision of the therapeutic approach should be adapted to each patient.

In our case, we had a good postoperative outcome after the surgical intervention on the side of the disc herniation.

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