

A report of short term spontaneous regression of herniated lumbar disc.

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Research Article

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Abstract

A 58-year lady presented with backache, left leg pain, and weakness for 3 months. A magnetic resonance imaging (MRI) scan of lumbosacral spine, taken three months back, showed L3-4 disc extrusion and canal stenosis. She had improvement with conservative treatment. But she had recurrence of symptoms 10 days back. Straight leg raising test was positive at 40 degree on left side. Dorsiflexion was grade 4 on left side. Sensations of touch and vibration were reduced in L4 dermatomal region. A repeat MRI scan was done to plan surgery. The disc extrusion at L3-4 had shrunk. She was given gabapentin, methylcobalamine, and physiotherapy. She improved over 1 week.

Spontaneous regression of herniated lumbar discs over a course of time is documented in literature. But the concomitant relief of symptoms is not seen always. The reports of regression within 3 months are a few. Kim ES et al reported about the peroperative identification of regression of an extruded disc fragment, during microdiscectomy 2 months after the magnetic resonance imaging(MRI). So it is better to do a repeat imaging before planning surgery for a patient with a prior diagnosis of disc herniation. Thus an unnecessary surgery can be avoided.

Sir/madam,

A 58-year lady presented with backache for 3 months, radiating to left leg, and weakness of left foot. She had severe pain 3 months back. A magnetic resonance imaging (MRI) scan of lumbosacral spine was taken at that time. It showed L3-4 disc extrusion and canal stenosis and grade 1 listhesis at L5-S1(Fig. 1). Surgery was advised at that time. But the patient opted conservative treatment. She had significant improvement in symptoms.

But she had recurrence of symptoms 10 days back. Straight leg raising test was positive at 40 degree on left side. Dorsiflexion was grade 4 on left side. Sensations of touch and vibration were reduced in L4 dermatomal region.

A repeat MRI scan was done to plan surgery. The disc extrusion at L3-4 had shrunk, with the residual listhesis at L5-S1(Fig. 2). She was given another trial of conservative treatment with gabapentin, methylcobalamine, and physiotherapy. She improved over 1 week in pain, power, and sensation.

A large number of the extruded lumbar disc herniations have been found to regress over time. Kesikburun et al. have reported that about three-fourths of the patients with extruded lumbar disc herniation can have complete resolution in the repeat Magnetic resonance imaging(MRI) after an average follow-up period of 17 months¹. Turk et al. found that the average time for disappearance of extruded discs in MRI was 26 weeks². But they noted that the patients continued to be symptomatic and even with deficits in spite of radiological improvement. Spontaneous regression was more common in sequestered fragments than subligamentous disc herniations. Chiu et al. found that the rate of complete resolution of disc herniation was 43% for sequestered discs and 15% for extruded discs³. The mechanisms behind the regression are

dehydration, shrinkage, retraction, and resorption by inflammation⁴. Phagocytosis by macrophages has been observed.

But the reports of spontaneous regression within a short term are few. Kim SG et al. described two male patients with clinical and radiological regression of lumbar discs in 3 months⁵. Albayrak et al. published a report of regression of L5-S1 disc sequestration of a 32-year-old man in 14 days⁶. Kim ES et al. reported about a 58-year-old woman with a large L2-3 disc extrusion⁷. She underwent microdiscectomy after 2 months. But the expected disc fragment was not found. Immediate MRI showed the absence of the fragment. But in our case, it was detected prior to surgery with a repeat MRI. So an unwanted surgery was avoided. The probable mechanism of shrinkage may be either dehydration or resorption by inflammation, since the axial T2-weighted image shows a hypointense wrinkled fragment (Fig. 2c.). The knowledge of shrinkage of the extrusion helped in improvement of her symptoms, since psychological factors seem to play a major role in the outcome of low back pain as in the literature⁸.

Declarations

Compliance with Ethical Standards:

Disclosure of potential Conflicts of interest- Nothing to be disclosed.

Informed consent- Informed consent was taken from the patient for publishing the clinical data and images in anonymised manner.

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Figures

Figure 1

a, Sagittal T1-weighted MRI showing extrusion of L3-4 disc and grade 1 listhesis at L5-S1; b, Axial T1-weighted imaging showing extrusion of L3-4 disc; c, Sagittal T2-weighted MRI showing extrusion of L3-4 disc and grade 1 listhesis at L5-S1; d, Axial T2-weighted imaging showing extrusion of L3-4 disc and canal stenosis.

Figure 2

a, Sagittal T1-weighted MRI showing regresseion of L3-4 disc extrusion; b, Sagittal T2-weighted MRI showing regresseion of L3-4 disc extrusion; c, Axial T2-weighted MRI showing shrunken L3-4 disc.