Open lumbar discectomy

Although open lumbar discectomy is a gold standard surgical technique for lumbar disc herniation(LDH), surgery-induced tissue injury may actually become a source of postsurgical pain. Percutaneous endoscopic lumbar discectomy (PELD) is introduced as a minimal invasive spinal technique for LDH.

Technique

- 1. position: prone
- 2. equipment: microscope (if used), minimally invasive retractors (if used)
- 3. consent (in lay terms for the patient—not all-inclusive):

a) procedure: through the back to go between the bones and remove the piece of disc that is pressing on the nerve(s)

b) alternatives:nonsurgical management

c) complications: usual spine surgery complications, plus the disc can herniate again in the same place in \approx 6% of cases, it is possible that a fragment of the disc can be missed at the time of surgery, there might not be the amount of pain relief desired (back pain does not respond as well to surgery as nerve-root pain).

In conjunction with the traditional discectomy, a laminotomy is often involved to permit access to the intervertebral disc. In this procedure, a small piece of bone (the lamina) is removed from the affected vertebra, allowing the surgeon to better see and access the area of disc herniation.

Case series

Son et al. classified 79 patients in a retrospective study after open lumbar discectomy who had a mean age (\pm SD) of 53.6 \pm 13.6 years (range 30-78 years) into 4 groups according to the length of their follow-up. Patients in Group 1 were followed up for 10-14 years, in Group 2 for 15-19 years, in Group 3 for 20-24 years, and in Group 4 for more than 25 years. In all of these patients, the clinical outcomes were assessed by using patients' self-reported scores on visual analog scales (VASs) measuring back and leg pain and by using scores from the Oswestry Disability Index (ODI). In addition, 10 radiological parameters suggesting degenerative changes or instability at the operated segment were recorded at various time points and used to calculate a numeric radiological finding (NRF) score by rating a presence for each finding of spinal degeneration or instability as 1.

They observed that OLD decreased pain and disability scores in all groups. Numeric radiological findings were highest in Group 4, and a significant correlation was detected between NRFs and VAS scores of back pain (p = 0.039). In this cohort, the reoperation rate was 13.9% during a mean follow-up period of 15.3 years. Clinical outcomes tended to be most favorable in Group 1, representing

patients who had OLD most recently, and they tended to deteriorate in the other 3 groups, indicating some worsening of outcomes over time. Degeneration of the spine at the operated level measured with radiographic methods tended to increase over time, but some stabilization was observed. Although spinal degeneration was stable, clinical outcomes deteriorated over time.

This cross-sectional assessment of a retrospective cohort indicates that outcomes after OLD deteriorate over time. Increased back pain indicated a worsening of clinical outcomes, and this worsening was correlated with radiological findings of degeneration at the operated segment ¹⁾.

1)

Son IN, Kim YH, Ha KY. Long-term clinical outcomes and radiological findings and their correlation with each other after standard open discectomy for lumbar disc herniation. J Neurosurg Spine. 2015 Feb;22(2):179-84. doi: 10.3171/2014.10.SPINE131126. Epub 2014 Nov 28. PubMed PMID: 25431963.

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