# Degenerative lumbar spine disease

## Types

Lumbar Disc herniation

Lumbar degenerative spondylolisthesis

Lumbar Spinal stenosis

## Outcome

Despite surgical advances, individuals after surgery for degenerative lumbar spine disease continue to have poorer physical and psychosocial functioning compared with the general US population, and up to 40% have residual chronic pain and functional disability [1)].

In general, surgery is only indicated for relief of leg pain in clear indications such as disc herniation, spondylolisthesis or spinal stenosis [2)].

### Case series

A retrospective analysis of 164 patients who underwent surgery for DLSD was performed. The study duration was 24 months (January 2013-December 2014). The patients were first evaluated and were assessed for their results regarding the extent of surgery in four groups: patients undergoing surgery for treatment of one segment, two segments, three segments, and four or more segments of DLS. Posteriorly, the same group of patients was divided based on the presence or absence of Dural Tear (DT) during surgery. In addition, the relationship between elderlies and the incidence of surgical site infection (SSI) and reoperation was also analyzed.

A total of 193 surgeries were performed on 164 patients (74 males/90 females), with a mean age of 53.18 years old (53.18±17.54). SSI occurred in 7.31% of cases and re-operations due to SSI or because of complications resulting from the first procedure occurred in 11,58% of cases. Results statistically significant were found regarding the incidence of SSI (P=0.05) and the rate of re-operation (p=0.003) in surgeries involving more than three segments. DT is directly related to the rate of re-operation (p=0.0172) and SSI (p=0.0002). Elderly patients were not a predictor of poor outcome, neither to incidence of SSI (p=0.2), nor chance of re-operation (p=0.36).

Surgeries involving more than three segments are directly related to SSI, incidence of accidental DT and chance of re-operation. The presence of DT during the procedure is presented as a predictor of postoperative SSI and an increase in re-operation rate. Furthermore, elderly patients are not related to a higher risk for SSI and re-operations [3)].

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The aim of a retrospective case study was to analyze the outcomes of minimal nerve root retraction in patients with an impending neurologic deficit in degenerative lumbar spine disease using full-

endoscopic spine surgery.

Thirty-seven consecutive patients with impending neurologic deficit underwent endoscopic spine surgery through either the transforaminal or the interlaminar approach. Their clinical outcomes were evaluated with visual analog scale (VAS) leg pain score, Oswestry Disability Index (ODI), and MacNab scale score. The outcome of motor deficits were evaluated with the Medical Research Council Scale for Muscle Strength grade. Completeness of decompression was documented with a postoperative magnetic resonance imaging (MRI) and computed tomography (CT) scan.

A total of 40 lumbar levels of 37 patients were operated on, VAS score of the leg improved from 7.7 ± 1 to 1.9 ± 0.6 ($p < 0.0001$). ODI score improved from 74.7 ± 6.5 to 25.4 ± 3.49 ($p < 0.0001$). Motor weakness improved significantly immediately after surgery. The mean MRC grade increased to 1.97, 3.65, 4.41, and 4.76 preoperatively, at 1 week, at 3 months, and at the final follow-up, respectively, and all the patients with foot drop and cauda equina syndrome symptoms recovered completely. One patient with great toe drop recovered partially to MRC grade 3. The mean follow-up of the study was 13.3 ± 6.1 months. According to MacNab's criteria, 30 patients (80.1%) had good and 7 patients (18.9%) had excellent results. Three patients required revision surgery.

Minimal nerve root retraction during full-endoscopic spine surgery is safe and effective for the treatment of the impending neurologic deficit. They could achieve a thorough decompression of the affected nerve root with acceptable clinical outcome and minimal postoperative morbidity [4].

1)
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