The surgical treatment options in thoracolumbar spine degeneration:
The importance of morphological and clinical classifications in preoperative decision making

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Abstract:

Objective: The aim of our study was to investigate the relations between subjective difficulties, clinical findings and the MR imaging in patients who have been operated for symptomatic lumbar spinal stenosis (LSS), and the possibility of using these relations for surgical treatment decision.

Methods: Patients operated for lumbar spinal stenosis in 2009-2010 were included in the study. Subjective difficulties were assessed using the Oswestry Disability Index (ODI), the clinical symptoms with the modified Neurological Impairment Score for Lumbar Spinal Stenosis (mNIS-LSS). We measured the spine canal area, dural sac area, and nerve root sedimentation classification on MR. By correlation analysis at significance level $p < 0.05$, we tested the relations between these categories. 61 patients with a median age of 67 were included. Overall, we evaluated 162 spinal segments.

Results: Median of ODI values were 48. Correlation coefficients for ODI, mNIS-LSS and graphical findings were less than 0.5. Correlation coefficients greater than 0.5 were between all the MR measurement methods.

Conclusions: In the group of patients indicated for surgery for symptomatic lumbar spinal stenosis, we have not found a statistically significant correlations between subjective patient difficulties, neurological findings and MR imaging. Statistically significant correlations are among the selected LSS measurement techniques for MR. For common use, the easiest of them is nerve root sedimentation classification according to Schizas.

Key words: lumbar spinal stenosis - lumbar spine - magnetic resonance - surgical treatment