#1833 - Posters

Midline-Preserving Vs Midline-Removing Surgery For Lumbar Spinal Stenosis: National Registry Study Based On The Finnish Spine Registry (FinSpine)

Orthopaedics / Spine / Degenerative Spine Surgery

Noora Aaltonen¹, Ida Rantalaiho², Katri Pernaa², Joel Kostensalo³, Henri Salo⁴, Inari Laaksonen²

- 1. Department of Surgery, Päijät-Häme Central Hospital, Lahti, Finland
- 2. Department of Orthopedics and Traumatology, Turku University Hospital, and University of Turku, Turku, Finland
- 3. Natural Resources Institute Finland, Natural Resources, Joensuu, Finland
- 4. Department of Data and Analytics, Finnish Institute for Health and Welfare, Helsinki, Finland

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Background

Lumbar spinal stenosis (LSS) can be treated surgically by decompressing the affected nervous structures either by removing or preserving the midline structures. There is no conclusive evidence demonstrating the superiority of either surgical technique in the treatment of LSS.

Objectives

Our aim was to compare these two surgical techniques separately for central stenosis and lateral recess stenosis, to evaluate whether either technique leads to superior postoperative results in terms of functional outcome or pain reduction.

Study Design & Methods

Our data is based on the Finnish Spine Registry (FinSpine). We obtained prospectively collected data of patients registered to have undergone decompressive surgery for LSS with less than 3 mm of spondylolisthesis from the beginning of FinSpine in 2015 until the end of year 2022. The primary outcomes were between-group differences in improvement of Oswestry disability index (ODI) and visual analogue scale (VAS) for back and leg pain at one, two, and five years postoperatively.

Results

A total of 7,577 patients underwent decompression surgery between 2015 and 2022. In the central stenosis group, there was no statistically significant differences between groups in primary outcomes. However, in the midline-preserving group, there were more new operations during the follow-up period. In the lateral recess stenosis group, there was a statistically significant improvement in the midline-preserving group in the change of ODI; 7.9 (95% C.I. [1.7, 14.1], p=0.01), and in the change in VAS leg pain; 12.8 (95% C.I. [0.5, 25.0], p=0.04) at the 5-year follow-up, compared to the midline-removing group.

Conclusions

Based on a nationwide registry, the majority of patients improved in the primary outcomes and were satisfied with the operative treatment. In addition to previous studies, we were able to make a differentiation between the anatomical features of the stenosis. Our results show that concerning central stenosis both techniques lead to good results, but midline-removing techniques may reduce the need for subsequent operations. In case of lateral recess stenosis, surgery by midline-preserving technique may lead to superior outcomes in functional outcome and leg pain.