

Dynamic Stabilization System Combined Fusion: 2-Years Outcomes in Lumbar Spondylosis

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Introduction

The use and preliminary results of the hybrid dynamic stabilization and fusion system, Dynesys-to-Optima (DTO), has been reported as an effective alternative to multi-level lumbar arthrodesis. However, this study will focus on the correction of lumbar lordosis and clinical effects in more than 2-years follow-up.

Methods

The retrospective chart review of 51 consecutive patients who underwent total laminectomies with DTO during January 2011 to July 2013 was done. Pre- and post-operative symptoms such as visual analog scale (VAS) for back and leg pain, Japanese Orthopedic Association (JOA) scores, and Oswestry Disability Index (ODI) were recorded and compared. Perioperative complications (e.g. neurological deficit) were also reported. Follow-up was available for 43 patients, and the follow-up period was more than 24 months.

Results

Total 43 of 51 (84%) patients who underwent lumbar decompression with DTO completed at least 2-years follow-up. The overall mean pre- and post-operative VAS score for back pain was 6.8 and 3.0 ($p < 0.05$). The overall mean pre- and post-operative VAS score for leg pain was 6.8 and 2.4 ($p < 0.05$). The overall mean pre- and post-operative JOA score was 3.4 and 13.19 ($p < 0.05$). And The overall mean pre- and post-operative ODI score was 23.25 and 3.75 ($p < 0.05$). The radiographic study, lumbar lordosis, was 38.35 degree in pre-operation and 43.91 in post-operative follow-up.

Conclusions

The lumbar decompression surgery with DTO system is safe and effective. Both the radiographic and clinical outcomes demonstrated promising results in 2-years follow-up. For long segments lumbar spondylosis, stabilization and fusion with DTO is an effective alternative to traditional arthrodesis.

Learning Objectives

Long term results of Dynesys stabilization and fusion.

References