

Quality of Life Outcomes with Minimally Invasive Transforaminal Lumbar Interbody Fusion Based on Long Term Analysis of 304 Consecutive Patients

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Introduction

Long-term prospective outcomes in patients undergoing minimally invasive spinal fusion for debilitating back pain has not been well studied.

The purpose was to demonstrate the short/long-term outcomes from a large cohort of patients undergoing minimally invasive transforaminal lumbar interbody fusion (MITLIF).

Methods

MITLIF was performed on 304 consecutive patients (184 females, 120 males) over a 7-year period from December 2003 to December 2010. Mean age was 62 years (range,19-93). Patients presented with lumbar spondylolisthesis with/without spinal stenosis (levels=236, 74%) and/or degenerative disc disease with/without spinal stenosis (levels=82, 26%).

Outcome measures included the visual analog scale (VAS), Oswestry disability index (ODI), and the Short-Form 36 (SF-36).

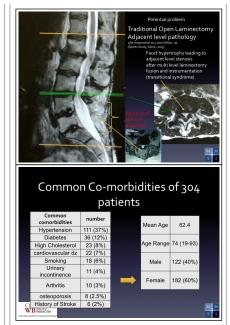
Presenting diagnosis was determined from clinical findings and radiographic (X-ray, MRI, CT-scan) evaluations pre operatively. Outcomes were collected pre-operatively, and post-operatively at two weeks, and 3, 6, 12, 24 months, and annually 2-7 years (mean follow-up: 47 months). Complications and re-operations at the initial level of MITLIF and adjacent level (s) were followed. Fusion rates were assessed blinded and independently by radiograph.

Results

VAS scores decreased significantly from 7.0 preoperatively to 3.5 (p-value <0.05) at mean 47-month follow-up. ODI scores declined from 43.1 preoperatively to 28.2 (p-value <0.05) at mean 47-month follow-up. SF-36 mental component scores (MCS) increased from 43.8 preoperatively to 49.7 (p-value <0.05) at 47-month followup. SF-36 physical component scores (PCS) increased from 30.6 preoperatively to 39.6 (p-value <0.05) at 47-month followup.Reoperation rate was 3.9% (n = 12) with adjacent level pathology requiring reoperation 2% (n= 6). Complications were low and fusion rates were greater than 95%.

Conclusions

This large prospectively collected outcomes study shows long-term statistically significant improvement after MITLIF. MITLIF resulted in a high rate of spinal fusion and very low rate of interbody fusion failure and/or adjacent segment disease requiring reoperation while reducing postoperative complications.



Learning Objectives

- to present a large series of patients treated for a variety of spinal disorders causing debilitating refractory lower back pain.
- -to illustrate important clinical points learned from a critical evaluation of long term prospectively collected outcomes in patients surgically treatment for chronic low back pain.
 -to show the benefits of MITLIF in
- providing cost effective treatment of chronic low back pain.

References

Minimally Invasive Spinal Fusion: Techniques and Operative Nuances, Editors, Perez-Cruet MJ, Pimenta L, Beisse R, Kim D. Quality Medical Publishing, Inc. St. Louis, MO 2011

