



Comparative Analysis of Laminotomy and Microdiscectomy with Revisions

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Introduction

Discectomy is one of the most common spine procedure performed and has been supported by several long-term studies. Relatively low complication rates are reported, though reoperation rates are as high as 30%. Standard discectomy (SD) is the most frequently performed procedure for lumbar herniated nucleus pulposus (HNP), though few studies have compared primary SD and revision SD with regard to post-operative complications using a large database.

Methods

This was a retrospective analysis of prospectively collected data from the NSQIP database. Patients > 18 years old undergoing SD or revision SD between 2005 and 2012 were included. Patient baseline factors, perioperative data, preoperative labs, American Society of Anesthesiologists (ASA) scores and post-operative events were recorded. Patients in the two cohorts were compared using multivariate logistic regression analysis with significance defined as $p < 0.05$. Odds ratio (OR) was calculated with a 95% confidence interval.

Results

During the study period 4703 patients underwent SD and 649 underwent revision SD. Mean age for SD was 51.7 years old (15.84) and revision 50.1 years old (14.3). Patients undergoing revision were more likely to be male (59.8% vs 40.2%, $p < 0.004$) and less likely to have ASA score of ≥ 3 (36.0% vs 29.0%, $p = 0.01$). Patient comorbidities were similar between the two cohorts except lower rate of cardiac complications in the revision SD (48.8% vs 40.2%, $p = 0.002$, all others $p > 0.05$). Comparison of all complications, reoperations, mortality, readmission, length of stay (LOS) and graft failure were similar between the two cohorts (all $p > 0.05$).

Learning Objectives

By the conclusion of this session, participants should be able to understand the comparison in outcomes between standard and revision discectomy.

Conclusions

Patients undergoing revision SD were more commonly male and with lower ASA scores and less cardiac comorbidity while other patient comorbidities, post-operative complications and operative factors were similar between the two groups. This may reflect a trend towards less surgical intervention in patients with extensive medical problems as supported by other recent studies.