30-Day Postoperative Outcomes Following Anterior Lumbar Interbody Fusion Using The National Surgical Quality Improvement Program Database

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Introduction

Anterior lumbar interbody fusion (ALIF) is a common procedure used to treat various lumbar degenerative pathologies. The purpose of this study is to describe 30-day postoperative outcomes following ALIF on a national scale.

Methods

The American College of Surgeons National Surgery Quality Improvement Program (ACS NSQIP) was searched for ALIF patients between 2005 and 2011. The top preoperative diagnoses were determined using ICD-9 codes. All available 30-day complications were grouped as overall composite morbidity and were compared between preoperative diagnosis groups by univariable and multivariable analyses.

Results

There were a total of 1,352 ALIF patients. Overall, 6.73% of patients experienced a postoperative complication. Unplanned reoperations (2.48%), urinary tract infection (1.55%), superficial surgical site infection (1.41%), and sepsis (1.11%) were the most common morbidity events. The morbidity rates for each sub-group were: intervertebral disc degeneration (4.41%), spondylosis (6.72%), lumbosacral spinal stenosis (8.21%), and spondylolisthesis (8.41%). After extensive adjustment for patient characteristics and preoperative morbidities, multivariate analysis revealed spondylolisthesis (OR=3.29; 95% CI:1.04–10.46) and spinal stenosis (OR=3.76; 95% CI:1.33–10.63) to be associated with significantly higher overall morbidity odds when compared with lumbar disc degeneration, the diagnosis with the lowest overall morbidity. Lumbosacral spondylosis had similar outcomes as degenerative disc disease (OR =1.70; 95% CI:0.48–6.06).

Conclusions

Diverse postoperative complications need to be managed following ALIF. Patients with spondylolisthesis and spinal stenosis may carry increased 30-day postoperative morbidity profiles in ALIF when compared to

Learning Objectives

-Patients with spondylolisthesis and spinal stenosis carry an increased 30-day postoperative morbidity profiles in ALIF compared to degenerative disc disease

-Spinal diseases associated with a major inflammatory component may have higher rates of surgical postoperative complications

-The complication that occurred with the greatest frequency was unplanned reoperation

-National morbidity rate after ALIF is approximately seven percent

References