



Is Age Associated With Increased Complication Rates in Degenerative Lumbar Spine Surgery? A Review of 34,764 Cases from the Scoliosis Research Society Database 2004-2007

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Introduction

Increasing life expectancy and advances in medical sciences have led to more aggressive treatments being offered to the elderly including spine surgery. A few studies have identified advanced age as a risk factor to develop complications following spinal surgery, however these reports are often limited by relatively small number of study subjects.

The goal of this study was to evaluate whether increasing age is a risk for increased complication rates in degenerative lumbar spine surgery.

Methods

The Scoliosis Research Society Morbidity and Mortality database was queried for all degenerative lumbar surgeries from 2004-2007. Patient demographics, diagnoses, and complications were analyzes. Two-tailed t-test and chi-square test were performed.

Results

Of 36,746 patients, 2171 (5.91%) had complications. Patients with complications were 3.8 years older (56.1 years vs. 52.3 years, $p<0.0001$). Mortality rate was 0.06%. Patients who died were 14.6 years older than those who did not have complications (66.9 years vs. 52.3 years, $p=0.0003$). Patients >60 years were 1.52 times more likely to experience complications ($p<0.0001$) and 8.27 times more likely to die ($p<0.0001$) as a result of surgery. There was a trend towards increasing complication rates with increased age across all degenerative lumbar diagnoses. Patients who underwent surgery for lumbar disc herniation were the youngest (mean age, 44.1) and had the least complications (3.74%). Patients with lumbar disc herniation greater than 60 years old were 1.36 times more likely to experience complications ($p=0.009$). Those who underwent surgery for spondylotic radiculopathy (average age, 55.4) had the highest complications rate (9.25%). Patients with post-laminectomy syndrome experiencing complications were significantly older compared to those who did not experience complications (59.2 vs 53.9, $p=0.015$). Patients who underwent surgery for lumbar stenosis were the oldest (average age, 62.8) and had an overall complication rate of 7.62%.

Conclusions

Advanced age was associated with increased complication rates including mortality following lumbar spine surgery for degenerative diagnoses. Other factors such as medical comorbidities may also influence surgical outcome and merit further investigation.

Learning Objectives

Identify age as a risk factor for increased complications in lumbar spine surgery

References

The Scoliosis Research Society Morbidity and Mortality Database 2004-2007