

The Prevalence of Undiagnosed Pre-Surgical Cognitive Impairment and Its Post-Surgical Clinical Impact in Elderly Patients Undergoing Surgery for Adult Spinal Deformity

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Introduction

Pre-existing cognitive impairment (CI) is emerging as a predictor of poor post-operative outcomes in elderly patients. The purpose of this study was to assess the prevalence of neurocognitive impairment in elderly patients undergoing surgery for deformity and its impact on postoperative outcomes.

Methods

Elderly subjects 65 years and older undergoing a planned elective spinal surgery for correction of adult degenerative scoliosis were enrolled in this study. Pre-operative baseline cognition was assessed using the validated Saint Louis Mental Status (SLUMS) test. SLUMS is made up of 11 questions, which can give a maximum of 30 points. Mild cognitive impairment was defined as a SLUMS score between 21 – 26 points, while severe cognitive impairment was defined as a SLUMS score of = 20 points. Normal cognition was defined as a SLUMS score of = 27 points. Complication rates, duration of hospital stay and 30-day readmission rates were compared between patients with and without baseline cognitive impairment.

Results

Eighty-two subjects were included in this study, with mean age of 73.26 ± 6.08 years. Fifty-seven patients (70%) had impaired cognition at baseline. The impaired cognition group had the following outcomes: increased incidence of one or more postoperative complications (39 % vs 20%), higher incidence of delirium (20% vs 8%) and higher rate of discharge institutionalization at skilled nursing or acute rehab facilities (54% vs 30%). However, the length of hospital stay and 30-day hospital readmission rates were similar between both cohorts (5.33 days vs. 5.48 days and 12.28% vs. 12%, respectively).

Conclusions

Cognitive impairment is highly prevalent in elderly patients undergoing surgery for adult degenerative scoliosis. Impaired cognition before surgery was associated with higher rates of post-operative delirium, complications, and discharge institutionalization. CI assessments should be considered in the pre-operative evaluations of elderly patients prior to surgery.

Learning Objectives

By the conclusion of this session, participants should be able to:

- 1) Describe the importance of cognitive impairment
- 2) Discuss, in small groups, the impact cognitive impairment has on post-surgical outcomes.