Complications and Mortality Following the Surgical Management of Elderly Patients with Acute Traumatic Spinal Cord Injury

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Introduction

Past studies have reported high perioperative morbidity and mortality when elderly patients undergo surgery for acute traumatic spinal cord injury (SCI). This study compares perioperative outcomes of elderly SCI patients who were managed surgically to a younger cohort.

Methods

A consecutive series of adult SCI patients was retrospectively reviewed from a prospective database at a single institution from 2007 to 2017. The cohort was divided into less than 70 years and 70 years or older. Outcomes of interest included complication, mortality, intensive care unit (ICU) stay, length of stay (LOS), disposition, and neurological status.

Results

111 patients were included: 88 young (45.0 years, 18-69 years) and 23 elderly (78.4 years, 70-89 years). Both groups were similar in regards to demographics, traumatic attributes, imaging features, and American Spinal Injury Association (ASIA) grade. Elderly patients had a higher proportion of cervical SCI (95.7% vs. 68.2%, p=0.027). 91.9% underwent fusion and 11.7% underwent corpectomy. Mean levels fused was 4.8 and mean levels decompressed was 2.6. ICU stay was 13.2 days, and LOS was 23.4 days; there was no significant difference between groups (13.2 vs. 13.3 days, p=0.966 and 23.8 vs. 21.7 days, p=0.725). Complication rate was 50.5%, and mortality was 3.6%. Elderly patients had a significantly higher complication rate (73.9% vs. 44.3%) (p=0.012), but did not experience a higher rate of a specific type of complication. Mortality rate was significantly higher in elderly patients (13.0% vs. 1.1%, p=0.006). There was a significance difference in discharge destination (p=0.023); no elderly patient was discharged home (0.0% vs. 17.1%). Discharge ASIA grade and improvement were similar.

Conclusions

Elderly patients have higher complication and mortality rates than young individuals, and they are less likely to be discharged home. However, elderly patients do relatively well during the postoperative period which may reflect careful patient selection and aggressive postoperative management.

Learning Objectives

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

1. Understand the modern complication and mortality rate of surgically managing elderly patients with SCI

2. Able to incorporate the knowledge of potential disposition of elder SCI patients when counseling patients

3. Implement these findings into their own practice

References

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