CURRENT TREATMENT OF INDIVIDUALS WITH TRAUMATIC SPINAL CORD INJURIES: DO WE NEED AGE SPECIFIC GUIDELINES?

CSS LAKE LOUISE 2014
**INTRODUCTION**

- Epidemiology of traumatic spinal cord injury is changing
- Increasing rates of spinal cord injury in the elderly with an aging population (ACT Forecasting)
- It is unknown whether treatment of elderly tSCI patients results in different management and different outcomes
OBJECTIVE

• Does elderly age affect management decisions and outcomes?
METHODS

- 1440 traumatic SCI patients with complete records prospectively recruited from 2004-2013 for the Rick Hansen Spinal Cord Injury Registry (RHSCIR)

- Demographic/injury differences between age groups (<70 VS ≥70 years old) were assessed
METHODS

- Chi-square bi-variate analysis and then multivariate analysis for associations with operative treatment.
  - Age (<70/≥70y),
  - Gender,
  - Injury etiology (falls vs other),
  - Energy of injury (high/low),
  - Injury level (cervical vs thoracolumbar),
  - Admission AIS (A&B vs C&D),
  - Injury Severity Score (ISS; </≥ 25),
  - Number of co-morbidities
Of 1440 patients with full data, 167 (11.6%) were >70 years old at time of injury

Older patients were more likely (p<0.0001)
  – Injured by falling compared to non-falls (83.1 vs 37.4)
  – Have cervical (75.9% vs 60.1%)
  – Have higher morbidities (mean 1.1 vs 0.31)
  – Less likely to have received operative treatment (80.2% vs 87.7%)
  – Have less severe AIS with AIS C or D (70.4% vs. 46.9%)
  – Less severe ISS with ISS <25 (58.2% vs 39.1%)
RESULTS LOGISTICAL MULTI-VARIATE REGRESSION ANALYSIS

• Age>70 did not affect odds of having operative treatment with logistical multivariate regression analysis (p=0.0734)

• Odds of having surgery increased
  – High energy of injury (OR 2.3) and
  – AIS A/B (OR 4.5)
RESULTS (≥70 VERSUS <70 YEAR OLD)

- Older patients had longer time from injury to surgery (143.8hr vs 65.9hr) (p<0.0001)

- Longer acute (but not rehabilitation) length of stay (46.6 days vs. 38.9 days) (p=0.0045)

- Age over 70 was associated with higher in-hospital mortality (25.5% vs 5.6%) (p<0.0001)
CONCLUSION

• Practice patterns in Canada demonstrate that age in of itself, does not impact the odds of having surgery.

• However, older patients wait longer for surgery and have substantially higher in-hospital mortality rates despite less severe injuries.

• Surgical guidelines for older patients should attempt to address these differences.