allied academies

J Neurol Neurorehabil Res, Volume 4

4th International Conference on

Spine and Spinal Disorders

September 03-04, 2019 | London, UK

Neurological recovery following Traumatic Spinal Cord injury: A systematic review and meta-analysis

Richam Faissal El Hossain Ellakkis
Hospital Municipal de Foz do Iguaçu, Brazil

This study aims to summarize the current evidence on neurological recovery following TSCI by use of a meta-analytical approach, and to identify injury, treatment, and study variables with prognostic significance.

A literature search in MEDLINE and EMBASE was performed, and studies reporting follow-up changes in American Spinal Injury Association (ASIA) Impairment Scale (AIS) or Frankel or ASIA motor score (AMS) scales were included in the meta-analysis. The potential effect of severity, level and mechanism of injury, type of treatment, time and country of study, and follow-up duration were evaluated using meta-regression analysis.

A total of 114 studies were included, reporting AIS/Frankel changes in 19,913 patients and AMS changes in 6920 patients. The AIS/Frankel conversion rate was 19.3% (95% CI 16.2–22.6) for patients with grade A, 73.8% (95% CI 69.0–78.4) for those with grade B, 87.3% (95% CI 77.9– 94.8) for those with grade C, and 46.5% (95% CI 38.2–54.9) for those with grade D. Neurological recovery was significantly different between all grades of SCI severity in the following order: C > B > D > A. Level of injury was a significant predictor of recovery; recovery rates followed this pattern: lumbar > cervical and thoracolumbar > thoracic. Thoracic SCI and penetrating SCI were signi cantly more likely to result in complete injury. Penetrating TSCI had a signi cantly lower recovery rate compared to blunt injury (OR 0.76, 95% CI 0.62–0.92; p = 0.006). Recovery rate was positively correlated with longer follow-up duration (p = 0.001). Studies with follow-up durations of approximately 6 months or less reported significantly lower recovery rates for incomplete SCI compared to studies with long-term (3–5 years) follow-ups. The authors demonstrated how neurological recovery after TSCI is significantly dependent on injury factors, but is not associated with type of treatment or country of origin. Based on these results, a minimum follow-up of 12 months is recommended for TSCI studies that include patients with neurologically incomplete injury.

Speaker Biography

Richam Ellakkis has completed his graduation in Medical School at the Federal University of Mato Grosso do Sul and the residence of Neurosurgery at Hospital de Base, São José do Rio Preto. Fellowship in Skull Base Tumors and Neurovascular at University of São Paulo. At present he is living in Foz do Iguaçu in the position of Neurology and Neurosurgey Coordination at Hospital Municipal.

e: richam_e@hotmail.com

Notes: