

Ultra-early (<12 hours) decompression improves early outcome after spinal cord injury (SCI) compared to early (12-24 hours) decompression

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Introduction

Acute traumatic spinal cord Injury (SCI) is a devastating insult which results in permanent disability, and there are no proven surgical or medical therapies for reversing the resultant neurologic deficit. Surgical decompression of the spine after injury has been shown to improve outcomes, however the optimal timing of surgery is a matter of debate.

Methods

We collected data from 78 patients with SCI. Based on the time to surgical decompression, we grouped patients into a ultra-early group (decompression within 12 hours of presentation), early group (within 12-24 hours), and a late group (> 24 hours). We compared the improvement in AIS grade from admission to discharge in each patient group.

Results

The patients who received surgery less than 12 hours after presentation had a significant improvement in AIS grade from admission to discharge, as well as a higher absolute AIS grade at discharge. There was no difference in AIS grade for patients who received surgery 12-24 hours after presentation and those who received surgery >24 hours after presentation.

Conclusions

These data suggest that ultra-early (<12 hrs) surgery is not only superior in terms of neurologic recovery, but also that early surgery (12-24 hrs) is no different than later surgery (>24 hrs).

Learning Objectives

The goal of this retrospective analysis is to determine the optimal time to surgery after SCI.

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