



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Acute Management Surgery

Early Decompression Surgery and Patient Outcomes Following Cervical Traumatic Spinal Cord Injury

Researchers at the Hôpital du Sacré-Coeur de Montréal (Montreal, Canada) investigated the impact of early decompression surgery on neurological recovery and quality of life for patients sustaining cervical traumatic spinal cord injury (TSCI). In one study, 42 patients who sustained a motor-complete, cervical TSCI were followed for six months. Neurological recovery was assessed using the American Spinal Injury Association impairment scale (AIS) and neurological level of injury.

Analysis of the data revealed that neurological recovery of patients sustaining cervical TSCI can be improved by early decompression surgery performed within 19 hours post injury. Upon follow-up six months post injury, patients who received early decompression surgery showed more pronounced neurological improvement as assessed from the AIS. 75 percent of patients that received early decompression surgery improved at least one AIS grade versus 41 percent for those who did not.

Furthermore, the initial severity of the neurological injury after a cervical TSCI may be used to estimate quality of life (QOL) following injury. In a related study, the investigators assessed QOL of 119 individuals who sustained a cervical TSCI six to twelve months after injury. Those individuals who sustained less severe neurological injury scored more favorably on the self-reported SF-36 Health Survey, a QOL assessment tool. Additionally, this project also reports that despite severe physical impairment, individuals with complete tetraplegia may report good mental QOL.

These findings are important to help clinicians define management strategies for patients, determine realistic expectations for recovery and quality of life, and optimize treatment plans based on the initial evaluation after a TSCI.

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