

Thecal Sac Ligation in the Setting of Thoracic Spondyloptosis with Complete Cord Transection

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Abstract

Traumatic spondyloptosis (TS) of the thoracic spine is a rare consequence of high-velocity, blunt trauma. TS with complete spinal cord transection and unreparable dural tear is particularly rare and can lead to cerebrospinal fluid (CSF) leak, for which treatment options are limited.

We report a novel case of a 26 year old female who presented with thoracic TS with complete spinal cord transection and unreparable durotomy with high-flow CSF leak secondary to a motor-vehicle accident (MVA) as an unrestrained passenger. The patient's neurologic exam showed a complete spinal cord injury at the T6 spinal level; the patient's lower limbs were completely paralyzed bilaterally; all sensation below the chest was absent. Her upper extremities were unaffected. Computed tomography (CT) imaging showed TS at the T7-T8 level, and MRI also showed complete transection of the spinal cord at T5-T6 and marked disruption of the thecal sac.

Given the gross spinal instability, thoracic stabilization surgery was performed. The dura was completely destroyed at T7-T8 and this resulted a high-flow CSF leak. The dura was not able to be repaired in such a way as to reconstitute the thecal sac. The thecal sac was therefore sutured ligated at the T7-T8 level to stop the CSF leak since the spinal cord was completely transected and not in continuity at this level. The patient tolerated the surgery without issue. She did not develop a CSF leak and had no issues with wound healing.