Clinical: Trauma: fractures and spinal cord repair

The Use of Cervical Transpedicular Fixation for the Treatment of Fracture and Dislocation of Lower Cervical Spine

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Objective: To investigate the method and effect of treating fracture and dislocation of lower cervical spine utilizing cervical transpedicular fixation.

Methods: The case of fracture and dislocation of cervical treated from June 2002 to June 2008 were retrospectively analyzed, 27 males and 11 females aged from 22 to 63 years (mean 44.25 years), of which 6 cases with unilateral small articular fracture and dislocation, 13 cases with bilateral small articular fracture and dislocation, 14 cases with bilateral small articular fracture and dislocation combined with compression fracture of vertabral body, 5 cases with cervical burst fracture and dislocation, all of which spinal injury at different grade. According to American Spinal Injury Association grades: 18 cases were in A grade, 12 cases in B grade, 6 cases in C grade, 2 cases in D grade.

Results: Six months after the operation, all patients had achieved solid bony fusion and stable fixation of the related segments. Twenty patients with incomplete spinal cord injury improved their ASIA Impairment Scale classification by 1 to 2 grades after the operation. Eighteen patients with complete spinal cord injury had no improvement in neural function. However, nerveroot symptoms such as pain and numbness were alleviated to some extent.

Conclusions: The cervical pedicle screw system is an effective and reliable method for the restoration of cervical stability. Sufficient pre-operative imaging studies of the pedicles and strict screw insertion technique should be emphasised.