



البحث السادس

Functional and radiological outcomes after Inclusion of fracture level with short segment fixation in treatment of thoracolumbar junction fractures

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Background: Acute Thoracolumbar spine fracture is a major cause of disability in adults. The trans-pedicular posterior fixation has been the favorable method for the fixation of these fractures. To decrease the number of sacrificed mobile segments, short segment fixation has replaced the long segment fixation which was traditionally used. The build has improved kyphosis correction and has fewer instrumentation failures because of the inclusion of the fracture level.

Patients and methods: The study was performed on 48 patients with burst fractures in the thoracolumbar junction for whom posterior spinal fixation was performed with the inclusion of fracture level. Functional and radiological outcomes were noted

Results There was a better correction of kyphosis and fewer rates of complication with better functional and radiological outcomes. the mean postoperative visual analog scale (VAS) score was 1.1 (range 0 - 2), Oswestry Disability Index (ODI) score was 8.3% (range from 2% to 24%). Cobb's angle was measured pre-operative with a mean of 15.8° (range 4°–30°) and improved post-operative to 1.3 ° (range 10 ° lordosis–13° kyphosis). The mean loss of Cobb's angle correction was 1.4° (range 0–4°) with an average loss of 8% of kyphotic angle correction and mainly during the first 3 months post-operative. Vertebral wedge angle (VWA) was measured pre-operative with a mean of 19.3° degrees (range 8°–32°) and improved post-operative to 2.4° (range 2° lordosis – 8° kyphosis) with an improvement of average 87.5% of vertebral wedge angle and at the final follow up VWA was 3.2 degrees (range 3° lordosis–10° kyphosis) with an improvement of average 83.4% of vertebral wedge angle. The mean loss of vertebral wedge angle correction was 0.8° (range 0–2°) with an average loss of 4.1% of vertebral wedge angle correction.

Conclusion: In thoracolumbar junction fractures, including the fracture level with short segment fixation (6 pedicle screws) demonstrated improved kyphosis correction with the maintenance of correction, lower rates of implant failure, and no extra problems.