**Case of Acute C3/A4 spinal fracture. Successful management after traumatic lumbar burst injury with lateral dislocation**Pavlov V.1, Petrova Y.2, Zlatev Z.2, Krastev E.2

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INTRO
The thoracic and lumbar regions are the most common anatomic sites for vertebral fractures. The lumbar

area is especially susceptible to trauma, accounting for 15% of all spinal column fractures.

The most common fracture types in the lumbar region are the vertebral body compression fractures (AO types A1 and A2 - 66.1 %) followed by translation/rotation injuries (type C). The latter type C fracture accounts for 19.4 % of all lumbar spinal area injuries where more than 50 % of them are with neurological deficits according to AOSpine classification system.

Common indications for surgical treatment are evaluated by the Thoraco-Lumbar Injury Classification system and Severity score (TLICS) three independent predictors – injury morphology, integrity of Posterior Ligamentous Complex (PLC) and neurological status. Instability of the affected spinal segment, incomplete or complete neurologic deficit, and persistent pain are indications for surgical stabilization.

MATERIAL AND METHODS
A clinical case of 25-year-old male with a history of demolition accident was admitted with lumbar pain and restricted movements. Neurological exam showed decreased muscular strength with left and right knee flexion (3/5) and right ankle dorsiflexion (3/5), L4 – L5 hypesthesia with pain in both legs. MRI and CT scan confirmed the type of spinal cord fracture – burst fracture (A4) with lateral displacement and dislocation (C3).

After thorough preoperative radiological diagnosis and appropriate surgical planning posterior transpedicular stabilization was undertaken, concerning the urgency of the procedure and the patient’s overall condition.
Prone position was chosen, L4 laminectomy and extraction of bone fragment was performed with decompressive purpose. Four-level posterior transpedicular stabilization was achieved (L2-L3-L5-S1) with proper realignment of the vertebral bodies.

The patient regained normal posture being able to fully perform his everyday activities. After 6 months of follow up a revision surgery was done because of broken screws. L3 and L5 pedicle screws were repositioned, keeping a shorter stabilization because of insufficient fusion.

Results

Improvement of patient’s overall condition and neurological status was achieved with restoration of the Sagittal balance

Conclusion

Goals of surgical treatment are reduction of the fracture and reconstruction of the normal spinal architecture, stable fixation of the affected spinal segment, decompression of the spinal cord and prevention of new spinal cord injuries, early mobilization, and optimal medical and surgical treatment in polytraumatized patients