

SUICIDAL FRACTURE: A CLINICAL CASE OF NEUROLOGICAL INJURY TO THE SACRAL PLEXUS

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Background

Sacral fractures represent 1% of axial skeleton fractures and are often associated with pelvic ring injuries. They usually result from high-energy trauma, such as traffic accidents and falls. The incidence of sacral plexus injury is significantly higher in sacral fractures compared to pelvic and acetabular fractures.

Case report

A 31-year-old woman was admitted to the emergency room following a suicide attempt, after falling 5 meters onto a hard surface while in an upright position. CT scans revealed fractures of the first to seventh right costal arches, a comminuted sacral fracture with bilateral multiple foraminal disruption ("H" fracture), and a right calcaneus fracture. The patient underwent L4-L5 percutaneous fixation, while other fractures were treated conservatively. During the Physical Medicine and Rehabilitation (PM&R) assessment, she exhibited a full and painless passive range of joint motion, muscle strength of 5/5 (MRC scale) bilaterally in C5-D1 and L2-S1 myotomes, preserved tactile and prick sensitivity in C5-S2 dermatomes, and symmetrical reflexes with no muscle tone changes. Neuropsychological examination showed abolished clitoral-anal and anal reflexes, 0/5 voluntary anal contraction, absent S3-S5 prick sensitivity and endoanal sensitivity bilaterally, and decreased muscle tone. She was catheterized due to urinary incontinence and a lack of bladder sensitivity. Rehabilitation included respiratory kinesiotherapy, active polysegmental joint mobilization, pelvic floor reeducation with neuromuscular electrostimulation, electromyographic biofeedback, progressive perineal and abdominal muscle strengthening, sensory stimulation of hypoaesthetic regions, bowel and bladder training with tibial nerve stimulation, bladder sensitization, and intermittent urination. After discharge, she was referred for outpatient follow-up in PM&R to continue monitoring and rehabilitation.

Conclusion

Sacral plexus injury may go undiagnosed acutely due to trauma severity and pain affecting neurological examination. However, it must be ruled out in sacral spine trauma. Injury to the parasympathetic fibers of S2-S4 leads to an areflexic bladder with urinary incontinence, constipation, external anal sphincter dysfunction, and anal incontinence.

Keywords: Sacral plexus injury; Rehabilitation