Comparison of Operative and Nonoperative Management of Elderly Fragility Pelvic Ring Fractures

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Purpose: Fragility lateral compression I (LC1) fractures of the pelvis (FFPs) are generally managed conservatively. Although percutaneous fixation of sacrum fracture is a well-known surgical technique to stabilize high-energy lateral compression pelvic ring fractures, the benefits of this procedure in geriatric FFPs are not known. We aimed to compare nonoperative and percutaneous sacral pinning of LC1 pelvic ring fractures with regard to visual analog scale (VAS) pain scores, length of stay, discharge disposition, mortality, and other complications.

Methods: A retrospective review at 2 Level I trauma centers of consecutive patients ages ≥60 years with isolated fragility LC1 pelvic ring fractures from January 2018 to July 2023 was conducted. Demographics, VAS pain score, length of hospital stay, discharge disposition, 90-day readmission, unplanned operations, and 90-day mortality rates were recorded.

Results: 231 patients were included with a mean age of 79.5 years (range, 60-100). 185 patients (80.0%) were female. 62 patients received percutaneous sacral fixation, and 169 were managed nonoperatively. Nonoperative patients were older (81.5 ± 10.0 years) than the operative group (74.2 ± 9.4 years, $P<0.01$), and had a shorter length of stay in the hospital (4.8 ± 6.2 days) than the operative group (10.6 ± 9.5 days, $P<0.01$). The operative group had more pain (VAS 7.7 ± 3.2) than the nonoperative group (VAS 6.6 ± 3.0, $P<0.01$) on admission but experienced similar pain postoperatively with VAS 4.7 vs 4.5 for the nonoperative group ($P = 0.71$). The average change in VAS pain score for operative patients was 3.2 versus 1.9 in nonoperative patients ($P = 0.05$). Three patients in the operative group had an unplanned operation, while 1 patient in the nonoperative group had an unplanned operation ($P = 0.03$). 90-day mortality, readmission, and discharge disposition were similar in both groups.

Conclusion: FFPs are associated with significant morbidities and mortality with or without surgical intervention. Patients who undergo percutaneous surgical fixation have similar discharge disposition, mortality, and readmission rates compared to patients treated nonoperatively. Percutaneous surgical fixation provides significantly larger pain relief for patients with uncontrolled pain.