Effect on Mobilization of Pelvic Fragility Fractures Treated with a Nail System

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Purpose: Our objective was to evaluate the clinical outcome of the first 38 patients with fragility anterior pelvic ring fractures, treated with an intramedullary implant system.

Methods: 38 patients with fragility fractures of the pelvic ring were included in this single-center retrospective observational study. All were treated with the patient-conforming polymeric rod. The implant is introduced through a small 3 to 4-cm incision over the os pubis, positioned within the ramus superior up to the acetabular dome across the fracture. The implant is filled with the liquid monomer to conform to the intramedullary space. After polymerization under the influence of blue light, the polymerized monomer hardens and gives direct stabilization of the fracture. The median age was 77 years (range, 46-96 years). 31 were female, 7 were male, 27 had a fall from standing height, 3 a fall from bicycle, 4 unknown, 3 multitrauma, and 1 due to metastatic bone disease. American Society of Anesthesiologis ts classification was 1, 3%; 2, 42%; and 3, 55%. Hospital stay averaged 11 days (range, 1-25 days). All patients had a preoperative CT scan, and 17 had concomitant sacral fractures.

Results: All fractures consolidated visual analog scale scores dropped from 3.4 preoperative to 1.7 on the first postoperative day. 24 patients returned to pre-trauma ambulation and activities of daily living. 22 patients returned to their homes. 5 patients died during follow-up not related to the procedure: 1 intestinal ischemia, 1 urosepsis, 1 preexisting cardiac condition, 1 COVID-19, and 1 unknown cause. 15 patients went to a rehabilitation center before going to their homes.

Conclusion: The nail system is a simple and reliable fracture stabilization method with a great potential for the fragile patient with a fragility fracture due to the rapid postoperative mobilization and thus reducing postoperative morbidity.