

Fragility Fractures of the Pelvis Treated with Transsacral Bar Fixation: Retrospective Study of 79 Cases

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Purpose: Epidemiological changes lead to an increasing prevalence of fragility fractures of the pelvis (FFPs). In up to 90%, there is a lesion of the posterior pelvic ring. An operative therapy is indicated in cases of prolonged or immobilizing pain or in a displaced dorsal fracture. If anatomically there is a corridor available, minimally invasive stabilization with a transsacral bar in S1 is possible.

Methods: All consecutive patients with an FFP treated with a transsacral bar through S1 in a Level-I trauma center from 2009 to 2017 were included. The patient's record and radiographs were analyzed. The patients or their relatives were contacted in 2018 to ask about the mortality, the present mobility, and place of residence. Except for 3 patients (4%), all patients still alive could be included in follow-up.

Results: 79 patients with a mean age of 76.7 ± 9.5 years (range, 50-95) were included-73 females and 6 males. Dorsally, 63% patients were stabilized additionally to the transsacral bar with uni- or bilateral sacroiliac screws. A concomitant stabilization of the anterior pelvic ring was performed in 53%. 16.5% underwent an operative revision (5% evacuation of hematoma, 5% peri-implant infection, 10% hardware removal; combinations possible). The transsacral bar was removed in 1 case due to malpositioning. The length of stay was 20 ± 12 days. At discharge, 46% were mobile on the ward, 14% in their room, 35% for transfer to sitting position, and 5% were bedridden. 24% were discharged to their home, 49% in geriatric rehabilitation unit, the remaining to other rehabilitation or to a nursing home. There was a mortality of 27% during follow-up; 1 patient died during hospital stay. The patients died an average 158 ± 109 weeks after discharge. The reason of death was not related to the pelvic operation. After a follow-up of 206 ± 151 weeks, 52% lived at their home, one third with assistance. 63% needed a walking aid, 16% were mobile without walking aid, 21% were bedridden or only mobile to sitting position.

Conclusion: The transsacral bar in S1 is a valuable minimally invasive stabilization method to recover mobility in elderly with an FFP. A relatively long in-hospital stay could be explained by the initial trial of conservative treatment and due to intra- and interdepartmental cogeriatic services. The high mortality and need for assistance reflects this geriatric, multimorbid patient collective.