Patient Demographics, Rather Than Implant Type, Influence Patient-Reported Mobility at 1 Year Post Trochanteric Fracture: A Secondary Analysis of the INSITE Trial

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Purpose: We aimed to identify predictors of patient-reported mobility at 1 year post trochanteric fracture fixation.

Methods: This is a secondary analysis of a randomized controlled trial that included ambulatory patients >18 years with trochanteric fractures managed with intramedullary nailing (IMN) versus sliding hip screws (SHS). We used multivariable regression to identify predictors of mobility (via the Parker Mobility Score [PMS], which measures mobility [1] at home, [2] outside, and [3] while shopping from 0 [Not able] to 9 [No difficulty]) at 1 year post fracture. For the primary analysis, we included all patients regardless of implant type. We further stratified the analyses by implant type to determine if predictors of PMS differed between groups.

Results: At 1 year postoperative, 540 patients (286 in the IMN group [53.0%], and 254 in the SHS group [47.0%]) met our inclusion criteria. Of these, 264 patients (48.9%) were ≥80 years, 436 patients (80.7%) lived independently at home, and 364 (67.4%) did not use an ambulatory aid prefracture. Older patient age, preoperative living situation, corticosteroid or mobility aid use, and nervous system disorders were significantly associated with worse 1-year PMS. Patients aged ≥80 years (vs 60 to 70) scored 0.17 (0.07-0.27) points lower on the PMS at 1 year. Institutionalized living and mobility aid use were associated with a 0.37 {0.22-0.51), and 0.31 (0.23-0.40)-point decrease in PMS, respectively. Nervous system disorders (ie, Parkinson's) were associated with a 0.27 (0.12-0.43)-point decrease in PMS, and corticosteroid use was associated with a 0.31 (0.12-0.49)ipoint decrease in PMS. Implant type was not associated with 1 year PMS. These variables remained associated with worse PMS when stratified by implant type, while patients managed with an IMN reported a higher PMS (0.14 [95% confidence interval (CI) 0.02 to 0.27]) if they were able to weight bear immediately postoperatively. This effect was additive, where patients with more than 1 of these factors (age, institutionalized living, mobility aid or corticosteroid use, or nervous system disorder) scored increasingly worse on the PMS. Patients with 4 of these factors scored a clinically significant 1 point (95% CI 0.42 to 1.41) lower on the PMS at 1 year.

Conclusion: Older patients, those who take corticosteroids, are unable to live independently at home or ambulate without a mobility aid, or with nervous system disorders appear to report worse mobility at 1 year post trochanteric fracture, regardless of implant type. In patients treated with an IMN, weightbearing immediately postoperatively may be associated with better 1-year mobility.