Fixation Within 48 Hours in Geriatric Acetabular Fractures Decreases Transfusion Requirements

Doriann Marie Alcaide[1], Nigel Blackwood, Matthew T Yeager, Clay A Spitler, Joseph Johnson
[1]University of Alabama at Birmingham

INTRODUCTION:
Early fixation for geriatric patients with acetabular fractures has been noted to reduce post operative complications. However, the possible benefits of early fixation on transfusion rates in geriatric acetabular fracture patients has not been well studied. The objective of the study is to determine if fixation within 48 hours from injury reduces risk for transfusion in geriatric patients with acetabular fractures.
METHODS:
Design: Retrospective
Setting: Single Level I Trauma Center (2010-2023)
Patient Selection Criteria: Patients that underwent open reduction internal fixation for acetabular fractures were identified using Current Procedural Terminology codes. Patients under the age of 65 and patients that were managed non operatively or with closed reduction percutaneous fixation were excluded.
Outcome Measures and Comparisons: The primary outcome measure was differences in transfusion requirements between patients who had early fixation (within 48 hours) and delayed fixation (after 48 hours). Secondary outcomes included differences length of stay (LOS), estimated blood loss (EBL), and mortality. Patient demographics, comorbidities, fracture characteristics, perioperative, intraoperative, and post operative data were collected.
RESULTS: A total of 160 patients were included in the study, of which 98 (61.3%) underwent early fixation. Patients with early fixation had lower preoperative (13.3% vs 30.6%;p=0.007) and intraoperative (33.7% vs 59.7%; p=0.001) rates of transfusion. Patients in the early fixation group also had lower rates of overall transfusion during their hospital stay (59.2% vs 77.4%, p=0.017). Early fixation was associated with a lower number of units transfused preoperatively (1.5 +/- 0.5 vs 4.6 +/- 5.2; p=0.019) and during the hospital stay (2.2 +/-3.2 vs 3.7 +/- 5.1; p=0.047). Early fixation was also associated with shorter LOS (8.3+/-7.4 vs 16.2+/-10.8;<0.001). There was no significant difference in number of units received intraoperatively, units received postoperatively, EBL or mortality.
DISCUSSION AND CONCLUSION: Geriatric patients that undergo early open reduction internal fixation of acetabular fractures have lower transfusion rates in patients, require less transfusions and shorter hospital stays but have no difference in mortality rates compared to patients that undergo delayed fixation.