

Mortality Rates Following Nonoperative Geriatric Hip Fracture Treatment: A Matched Cohort Analysis

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Purpose: Relatively few studies have investigated outcomes following nonoperative treatment of geriatric hip fractures. The purpose of this study was to determine 30-day, 90-day, and 1-year mortality rates in a large cohort of nonoperatively treated geriatric hip fracture patients and to compare these mortality rates with a matched cohort of patients who underwent operative treatment.

Methods: We identified all patients 60 years and older with a fracture of the proximal femur treated at a single academic medical center over a 10-year period using ICD-9 codes for femoral neck, intertrochanteric, or subtrochanteric fractures. Medical records were reviewed to collect demographic information, hospital length of stay (LOS), medical comorbidities, current living status, and date of death, if deceased. Patients treated nonoperatively were matched in a 2:1 ratio with operatively treated patients based on Charlson Comorbidity Index (CCI) and American Society of Anesthesiologists (ASA) scores.

Results: We identified 171 patients treated nonoperatively. 501 operatively treated patients were identified for the matching algorithm. After applying the matching algorithm, including demographics, CCI, and ASA scores, a total of 128 nonoperative and 239 operative patients were included in the final statistical analysis. There were no significant differences in age, sex, CCI, or ASA status score between groups. After matching, patients treated nonoperatively had significantly higher 1-year mortality compared to patients treated operatively (46.1% vs 18.0%, odds ratio [95% confidence interval]: 3.85 [2.34, 6.41], $P < 0.001$). As shown in Table 1, mortality rates at 30 days, 90 days, 1 year, and at present were all significantly higher in the nonoperative cohort.

Conclusion: Geriatric patients who underwent nonoperative management of their hip fractures had a 1-year mortality rate of 46.1%, significantly higher than that observed in a matched cohort of patients treated operatively (18.0%).

Table 1

Mortality	Non-operative (n=128)	Operative (n=239)	P value
30 days	31.2%	2.9%	<0.001
90 days	38.3%	6.7%	<0.001
1 year	46.1%	18.0%	<0.001
At Present	61.7%	36.0%	<0.001

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.