

Do Nonoperatively Managed Hip Fracture Patients Have Lower Mortality Rate Than Historically Reported? A Matched Cohort Study Comparing Operative and Nonoperative Geriatric Hip Fracture Mortality

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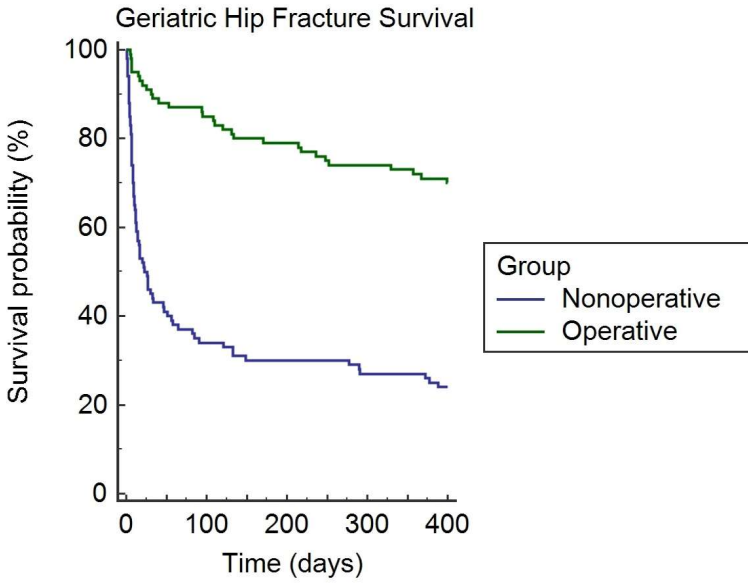
Purpose: Hip fractures are common injuries and are a significant cause of mortality in geriatric patients. Timely operative management is uniformly recommended as a means of mitigating the increased risk of morbidity and mortality. Surprisingly, few studies exist that have directly compared the outcome of patients who were treated either operatively or nonoperatively. The purpose of our study is to report the mortality data and mean life expectancy of geriatric hip fracture patients who chose nonoperative management of their injury and compare that to an age and sex-matched operative cohort.

Methods: An institutional geriatric hip fracture database from an American College of Surgeons (ACS) Level I trauma center was queried. All patients older than 65 years of age with a femoral neck or intertrochanteric fracture (AO/OTA 31A and 31B) treated at our institution from September 2004 to January 2012 were enrolled. The patients were divided into operatively and nonoperatively managed cohorts. An age and sex-matched pairing was then performed. A chart review of all patients was conducted and the Charlson Comorbidity Index (CCI), length of hospital stay, as well as mortality data were collected. Patients with incomplete comorbidity or mortality information were excluded.

Results: 200 patients met the study inclusion and exclusion criteria. There were 100 patients in both the operative and nonoperative cohorts. The mean age in both groups was 86.2 (range, 65-102) years and 66% were female. There were more intracapsular femoral neck fractures in the operative cohort although this difference was not significant (64 vs 51; $P = 0.09$). The mean CCI was significantly higher in the nonoperative group (2.42 vs 1.72; $P = 0.001$). Nonoperatively managed patients were found to have a significantly higher inpatient (22% vs 1%; $P = 0.0001$), 30-day (55% vs 9%; $P = 0.0001$), and 1-year mortality (73% vs 27%; $P = 0.0001$). The mean life expectancy after a hip fracture in our nonoperative cohort was significantly shorter than the operative group (367 vs 2003 days; $P = 0.02$).

Conclusion: In our retrospective cohort study of age and sex-matched operative and nonoperative geriatric hip fractures, we found that nonoperatively treated patients had higher inpatient, 30-day, and 1-year mortality. The 1-year mortality rate of nonoperatively managed geriatric hip fracture patients was 73% (Figure 1). Our study design did not match the two cohorts for all known contributing factors that affect mortality such as prefracture mobility or being a resident in a long-term care facility and therefore we cannot conclude that surgery is the primary factor that decreased the mortality rate in our operative cohort. Instead, our results demonstrate the bleak overall prognosis for nonoperatively treated geriatric hip fractures even at an academic ACS Level I trauma center. Our findings offer

helpful outcome information for orthopaedic surgeons who treat geriatric hip fractures insofar as providing updated mortality data when discussing nonoperative hip fracture management with patients and their families.



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.