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Time To Definitive Fixation Of Hip Fractures: A Look At Outcomes Based Upon Delay

Trauma / Hip & Femur Trauma / Complications

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Introduction

Despite best efforts to improve fracture care and post-operative rehabilitation following hip fracture, elderly patients have alarmingly high in-hospital and one-year mortality rates of 4.35-9.2%¹⁻⁴ and 36%⁵, respectively. Those who do survive are unlikely to return to independent living – only 17% of patients following hip fracture can walk independently 6 months post-operatively, and merely 12% can climb stairs. Numerous investigators have attempted to identify modifiable risk factors to further optimize care for patients with hip fractures, none of which have significantly steered treatment guidelines

Objectives

Morbidity and mortality after hip fracture in the elderly is often influenced by non-modifiable comorbidities. Time-to-surgery is a modifiable factor that may play a role in post-operative morbidity. This study investigates outcomes and complications in elderly hip fracture surgery as a function of time-to-surgery.

Methods

A retrospective review was completed using the 2011 American College of Surgeons – National Surgical Quality Improvement Program (ACS-NSQIP) data. Data from over 258 hospitals in 43 states was included. Contributing hospitals ranged from rural community hospitals to large academic centers.

The study population was identified using CPT codes for hemiarthroplasty (27125), percutaneous or open fixation of femoral neck fractures (27235, 27236), and fixation with a screw and side plate or intramedullary fixation (27244, 27245) for peritrochanteric fractures. Triads (<24hours to surgical intervention, 24 to 48hours, and >48hours) were created matching for surgery type, gender, age and ASA class.

Results

2904 subjects were identified with 968 fractures in each triad. Adjusted and unadjusted models demonstrated that there was no correlation between wait times and readmission rates (p=0.593) or overall 30-day mortality rates (p=0.316). However, wait-time >48 hours was associated with a significant increase in time from surgery-to-discharge (p<0.001).

Conclusions

Early surgical intervention in a comorbidity-adjusted population of elderly hip fracture patients does not increase overall complications, readmissions or 30-day mortality. Time-to-surgery >48 hours is associated with an increased total length of stay, including an increase in surgery-to-discharge time, without medical benefit.