

#1613 - Nurses

Waiting Time To Surgery Is Correlated With An Increased Risk Of Serious Adverse Events During Hospital Stay In Hip-Fracture Patients: A Single Cohort Study Of 577 Hip Fractures

Orthopaedics / Pelvis, Hip & Femur / Epidemiology, Prevention & Diagnosis

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Introduction

In recent years, time to surgery has emerged as one of the major modifiable risk factors influencing complications in hip-fracture patients.

Current systematic reviews and meta-analyses of the literature have established that early surgery is associated with decreased risk of pressure ulcers and post-operative pneumonia, reduced length of hospital stay and probable reduction in complications and mortality. Undergoing surgery within 12 hours after admission significantly decreases the 30-day mortality rate. Delays of 48 hours or more to surgery are associated with a significantly increased risk of mortality and no unfavourable outcomes have been reported with early surgery. In the studies reviewed the cutoff times to surgery have been arbitrarily set and vary widely, but generally early surgery was regarded as surgery performed within 24-48 hours from admission to hospital.

National guidelines or recommendations have been introduced which advocate specific time frames in which surgery should be performed. Some countries, have even introduced economic incentives to further this end. Many of these encourage surgery on the day of admission or the following day. The definition of early surgery i.e. within 24-48 hours is, in itself problematic, as these time constraints have been arbitrarily set without being modeled on the linear assumption i.e. that risk increases continually over time and not within specific cut-off times.

Objectives

The aim of this study was to investigate how waiting time to surgery correlates to the risk of serious adverse events (SAEs) in hip-fracture patients during the hospital stay and the influence of cut-off times on risk.

Methods

A total of 576 patients (72.4% females, mean [SD] age 82 [10]) years, with a hip fracture were included in a cohort study and followed-up for one year. The outcomes of the study were the occurrence of SAEs during hospital stay, length of stay and mortality rate. A

structured record review was carried out to identify outcomes. Waiting time to surgery, from arrival at the hospital was used as the exposure variable and age, sex, type of fracture, comorbidities and the presence of cognitive dysfunction were identified as confounders. A logistic regression analysis was performed to identify risk factors influencing the outcomes.

Results

119 patients (20.6%) suffered at least one SAE during hospital stay. Every hour of waiting time to surgery increased the risk of SAE by 1.3% (odds ratio [OR] 1.013 [95% confidence interval [CI] 1.003-1.022]). We found no optimal cut-off times for waiting time to surgery. For every 24 hours of waiting time the length of stay from surgery was increased by 0.6 days (95% CI 0.1-1.1). We found no correlation between waiting time to surgery and one-year mortality.

Conclusions

A large proportion of patients suffered at least one SAE after hip fracture surgery and there are no safe limits for waiting time to surgery for hip-fracture patients. Patients with an ASA classification 3, males and those with subtrochanteric fractures should be prioritized for surgery.