

What is the Incidence of In-Hospital Mortality After Hip Fracture? Do Treatment Options Matter?

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Background



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- Hip fractures represent a considerable source of morbidity and mortality for patients
 - Estimated incidence of 300,00/year in the US⁵
 - Expected 6.26 million worldwide by 2050⁴.
- One year mortality rate estimates range between 15-36%^{1,3,4,7,8} with an overall reduction in remaining life of 25% or 1.8 years¹.
- Treatment options vary but commonly include hemi (HA) vs total hip arthroplasty (THA) and internal fixation.

Background



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- In-hospital mortality rates following hip fracture range from 1.5-11.4%^{3,4}.
- Those undergoing surgical intervention for hip fracture have a 10x higher likelihood of perioperative mortality when compared to those undergoing elective total hip arthroplasty⁶.
- Complication rates have been estimated to occur in roughly 20%² of patients and are associated with:
 1. Increased costs of care
 2. Longer length of stay
 3. Permanent disability¹.

Purpose of study



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The purpose of this study was to investigate in-hospital mortality and complication rates in patients with hip fractures after surgical intervention.

Methods



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- The nationwide inpatient sample from 2000-2015 was queried of hip fractures
- End points evaluated were in-hospital mortality and complications including MI, stroke, length of stay (LOS) and disposition.
- Patients undergoing internal fixation, HA and THA were compared.
- Chi-square, ANOVA and multivariate logistic regression were used to compare the variables amongst treatment options.

Results



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- Overall in-hospital mortality declined 0.04%; a 29% relative decrease.
- Hip fractures were associated with a greater incidence of in-hospital mortality (OR=1.63, 95% CI: 1.59-1.66).
- Internal fixation had lower mortality rates than HA (OR=0.53, 95% CI: 0.5-0.56) and THA (OR=0.86, 95% CI: 0.77-0.96) and fewer in-hospital complications.
- Internal fixation had shorter LOS vs HA and THA (5.77 vs 6.39 and 6.08 respectively)
- Internal fixation patients were also more likely to be discharged home than HA and THA (OR=3.99, 95% CI: 3.89-4.1 and OR=1.58, 95% CI 1.51-1.65 respectively)
- THA had lower in-hospital mortality (0.61, 95% CI 0.55-0.68) and fewer complications vs HA.

Conclusions



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- In-hospital mortality of hip fractures is decreasing overall.
- Internal fixation as treatment had:
 1. Lower in-hospital mortality rates
 2. Lower rates of in-hospital complications
 3. Had shorter LOS
 4. Were more likely to be discharged home than HA and THA treated patients
- When considering surgical options for patients presenting with hip fracture, we advise that those with considerable medical comorbidities/higher risk of complications be recommended for open reduction and internal fixation (ORIF) as opposed to THA or HA.

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