Is There a Worst Complication Following the Operative Treatment of Hip Fractures?

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Purpose: Our objective was to determine which in-hospital complications following the operative treatment of hip fractures is associated with increased inpatient, 30-day, and 1-year mortality.

Methods: An IRB-approved study was conducted on a consecutive series of all patients being operatively treated for hip fractures at a single academic medical center between October 2014 and November 2022. Patient demographics, hospital quality measures, and outcomes for each patient were reviewed. Fractures were classified according to the OTA classification. All patients underwent standard surgical treatment for their type of hip fracture. Development of an in-hospital complication was recorded. Cohorts were based upon mortality time points and compared based on association with an in-hospital complication using independent t-tests, $\chi 2$ tests, and multivariate logistic regression.

Results: A total of 3313 patients were identified. The cohorts for all mortality time points (inpatient, 30-day, and 1 year) were different in terms of age, gender, Glasgow Coma Scale (GCS), Charlson Comorbidity Index (CCI), pre-injury ambulatory status, and pre-injury use of assistive device. Abbreviated Injury Score Head/Neck was also different between the cohorts at the inpatient and 30-day mortality time points. There was no difference in race or body mass index at any mortality time point. Overall, multivariate regression demonstrated that myocardial infarction was associated with increased in-hospital (odds ratio [OR]: 7.06, 95% confidence interval [CI] 2.50-9.87, P<0.001), 30-day (OR: 5.07, 95% CI 2.10-12.28, P<0.001), and 1-year mortality (OR: 3.6, 95% CI 1.63-7.97, P = 0.002). Sepsis was most associated with 30-day mortality (OR: 5.45, 95% CI 2.93-10.14, P<0.001).

Conclusion: Postoperative myocardial infarction was the complication most associated with mortality during admission and at 1-year time points following the operative treatment of hip fractures. Sepsis was the complication most associated with 30-day mortality.