

Perioperative Morbidity and Mortality of Same Admission Staged Bilateral Total Knee Arthroplasty

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Introduction: Controversy continues regarding the optimal timing of surgery for patients with symptomatic bilateral degenerative knee arthritis who are not considered eligible for same-day bilateral TKA (BTKA). The purpose of this study was to compare the (1) 30-day mortality, (2) rates of in-hospital complications, and (3) associated risk for complications among patients undergoing same-admission staged BTKA (separate procedures during a single hospitalization) or staged BTKA (both arthroplasties performed within one year), at a highly specialized center for total joint replacement where specific guidelines have been implemented for same-day BTKA patient selection.

Methods: We analyzed institutional data from a computerized database and medical records for 153 same-admission staged BTKA and 1557 staged-BTKA patients diagnosed with idiopathic osteoarthritis (OA) from 1998 to 2011. Patient demographics, including Deyo comorbidity index and 30-day mortality, were tabulated. Same-admission staged patients were similar in age to staged patients (70.6 ± 8.1 versus 69.5 ± 9 years; $p=0.112$), but were more likely to be male (51.6% versus 34.3%; $p<0.0001$) and had a higher overall comorbidity burden (0.8 ± 1.1 versus 0.6 ± 1.1 ; $p=0.002$). Outcomes of interest included procedure-related, minor or major complications, blood transfusions, and transfer to rehabilitation or higher level of care.

Results: The mean LOS was higher in the same-admission staged cohort (11.4 ± 4 versus 9.2 ± 2.9 days; $p<0.001$). There was no difference in 30-day mortality between the same-admission and staged patients (0% versus 0.06%; $p=0.754$). The same-admission group experienced more acute postoperative anemia (10.5% versus 2.7%; $p<0.0001$), blood transfusions (90.8% versus 53.6%; $p<0.0001$), and transfers to rehabilitation (82.3% versus 45.9%; $p<0.0001$). There were no differences in the overall procedure-related (3.3% versus 2.6%; $p=0.643$) and major complication (8.5% versus 6%; $p=0.23$) rates between the same-admission and staged cohorts. However, same-admission patients had a higher rate of minor complications (38.6% versus 28.6%; $p=0.01$) and specifically significantly higher incidence of hypotension, syncope and collapse, UTI, in-hospital infection and paralytic ileus.

Conclusion: Our results suggest that for patients who are not appropriate candidates for same-day BTKA it is preferable to undergo staged BTKA within a year and avoid same-admission staged BTKA because of higher incidence of perioperative morbidity.