Paper #2

Continued Inpatient Care after Primary Total Knee Arthroplasty Increases 30-Day Post-Discharge Complications: A Propensity Score-Adjusted Analysis

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Introduction: Discharge destination, either home or inpatient facility, after TKA may represent significant variation in post-acute care outcomes. Differences in these outcomes are not well characterized. The purpose of this study was to characterize the 30-day post-discharge outcomes after primary TKA relative to discharge destination.

Methods: Primary TKAs performed for osteoarthritis from 2011–2014 were identified in the National Surgical Quality Improvement Program database, excluding bilateral surgeries. Propensity scores were used to adjust for selection bias in discharge destination. A propensity score was defined as the conditional probability of being discharged to continued inpatient care facilities based on demographics, obesity class, preoperative functional status, modified Charlson Comorbidity Index (CCI), American Society of Anesthesiologists (ASA) class, and the presence of pre-discharge complications. Propensity-adjusted multivariable logistic regressions were used to examine associations between discharge destination and post-discharge complications, with odds ratios (OR) and 95% confidence intervals (CI).

Results: Among 101,256 primary TKAs identified, 70,628 were discharged home and 30,628 to inpatient facilities. Patients discharged to inpatient care more frequently were female, older, higher BMI class, higher CCI and ASA classes, had pre-discharge complications, received general anesthesia, and classified as non-independent preoperatively. Propensity adjustment accounted for this selection bias (propensity-adjusted p-values >0.05). Propensity-adjusted multivariable logistic regression demonstrated that patients discharged to continued inpatient care after TKA had higher odds of any major complication (OR=1.25; 95% CI, 1.13-1.37) and readmission (OR=1.81; 95% CI, 1.50-2.18). Inpatient care increased odds for respiratory, septic, thromboembolic and urinary complications (all p<0.05). Associations between discharge destination and death, cardiac and wound complications were insignificant (p>0.05).

Conclusions: After controlling for pre-discharge patient characteristics, discharge to inpatient care versus home after primary TKA is associated with higher odds of numerous complications and unplanned readmission. These results support coordination of care pathways to facilitate home discharge after hospitalization for TKA patients whenever possible.

Notes