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Ezinma Dennis

Advisor(s):

Economic Impact of Prior Colectomy on Total Knee Arthroplasty Outcomes

Introduction: The purpose of this study is to explore the economic impact of a prior colectomy on post-operative outcomes in patients who underwent total knee arthroplasty (TKA).

Methods: In this cohort study, primary TKA patients were isolated from the NIS 2000 to 2015 Q3 (ICD 9 codes). Participants ≥ 18 years old were included in the study, and those admitted for TKA revision or has missing data were excluded. Two cohorts were created: TKA patients with a prior colectomy and those without. Comparative univariate analyses were conducted using patient demographics, hospital-related factors, and postoperative outcomes (procedure-related complications, other medical complications, revision, reoperation, admission mortality, discharge disposition, cost of admission, and length of stay). Confounding factors were adjusted with the use of multivariate regression analysis. Chi-square test or Fisher test were used for categorical variables. Wilcoxon rank-sum test was used for continuous variables. Length of stay and total charge were kept as continuous variables and are reported in the univariate table as mean and standard deviation. Logistic regression analysis was performed to assess the economical correlation between prior colectomy and postoperative outcomes. Statistical significance was set at the 0.05 level.

Results: Prior colectomy had lower odds of a long length of stay (OR=0.94, $p < 0.001$) and discharge to a rehabilitation center (OR=0.78, $p < 0.001$) than patients without prior colectomy. However, prior colectomy was associated with higher odds of total charges than those without prior colectomy (OR=1.09, $p < 0.001$; Table 1).

Discussion and Conclusion: In this cohort study, it was observed that a previous colectomy has a significant economic influence following TKA. These findings offer valuable insights for orthopedic surgeons as well as patients on economic considerations associated with this medical history.