

Temporal Trends in Complications After Revision TKA for Prosthetic Joint Infection: Have we Progressed in the Past Decade?

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INTRODUCTION:

Revision total knee arthroplasty (TKA) is associated with increased complications, particularly when performed for prosthetic joint infection (PJI). Given that revision TKA and PJI are uncommon, many studies include limited sample sizes from institutional cohorts. We aimed to use a large database with the past 10 years of data to analyze complication rates following revision TKA for PJI compared to primary TKA and revision for non-infectious etiologies.

METHODS:

A national database was queried to identify patients from 2010 to 2020. Using international classification of disease (ICD) and current procedural terminology (CPT) codes, patients were grouped by primary TKA (pTKA), revision TKA (rTKA) for non-infectious etiologies and rTKA for PJI. The prevalence of major and minor complications within 30-days of surgery was adjusted for covariates including age, sex, ASA class and smoking history.

RESULTS:

489,195 patients were included overall, mean age 67 ± 9.4 years. 468,001 (96%) patients underwent pTKA, 19,872 (4%) rTKA and 1,322 (0.3%) rTKA for PJI. The overall rate of major complications was 2.8% for primary TKA, 4.6% for rTKA and 7.2% for rTKA for PJI. From 2010 to 2020, the adjusted-rate of major complications for patients undergoing pTKA significantly decreased from 2.9% to 2.7%, while the adjusted-rate of major complications for patients undergoing rTKA and rTKA for PJI significantly increased from 3.5% to 3.8% and 3.8% to 10.7%, respectively. Similarly, there was a significant decrease in minor complications in patients undergoing pTKA (2.9% to 2.4%), while the prevalence significantly increased in patients undergoing rTKA (3.4% to 3.8%) and rTKA for PJI (4.5% to 10.2%).

DISCUSSION AND CONCLUSION:

Minor and major complication rates have increased in patients undergoing rTKA and rTKA for PJI from 2010 to 2020, even after controlling for demographic characteristics, ASA classification and smoking history, while the adjusted rate of complications following pTKA has made a small but significant decrease.

