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Gastroparesis in Total Knee Arthroplasty Patients is Associated With Increased Rates of Postoperative Outcomes

Introduction: Past studies have not explored the relationship between gastroparesis and postoperative outcomes after primary total knee arthroplasty (TKA) surgery. The purpose of this study is to compare the follow-up postoperative outcomes in TKA patients with and without gastroparesis.

Methods: Data from the New York State's Statewide Planning and Research Cooperative System database from 2010 to 2019 was retrospectively analyzed to isolate primary TKA patients. 1,359,957 TKA patients were then grouped into two cohorts based on gastroparesis status (n=1358295 non-Gastroparesis and n=1662 for Gastroparesis). Patient demographics, hospital variables, and postoperative outcomes (procedure complications, medical complications, revision of TKA, reoperations, mortality during hospitalization) were compared between the two cohorts. To evaluate the association of gastroparesis with postoperative outcomes after TKA surgery, logistic regression analysis was performed.

Results: Gastroparesis patients were found to have longer hospital stays (3.6 days vs. 2.7 days; $p < 0.001$) and increased total surgical charges (\$67,912 vs. \$58,538; $p < 0.001$). Gastroparesis patients also had increased rates of procedure related complications (acute myocardial infarction, pneumonia, sepsis/septicemia/septic shock, surgical site infection, surgical site bleeding, pulmonary embolism, deep vein thrombosis, wound complications, periprosthetic joint infection, mechanical complications) and medical complications (acute kidney injury, urinary tract infection, blood loss anemia) (Table 1).

Discussion and Conclusion: This retrospective study found that gastroparesis is a significant predictor of increased rates of postoperative medical and surgical complications in TKA patients. These results may provide orthopedic surgeons with additional benefits and risks associated with TKA surgery to communicate to patients based on their past medical history.