

Impact of Anticoagulation on Incidence of Manipulation Under Anesthesia in Total Knee Arthroplasty

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INTRODUCTION:

The use of chemoprophylaxis to prevent venous thromboembolism (VTE) after Total Knee Arthroplasty (TKA) is standard of care, although each drug has risks and benefits. The aim of this study was to analyze the effect of anticoagulant on the rate of Manipulation Under Anesthesia (MUA) after primary TKA. We hypothesized patients receiving Aspirin would have lower rates of MUA than those receiving other anticoagulants.

METHODS:

The PearlDiver database was canvassed to identify all primary TKA between January 2010 and April 2023, including patients who filled a prescription within 3 days before or 5 days after surgery. Patients who filled prescriptions for multiple anticoagulants were excluded. Logistic regression was utilized to compare all anticoagulants to Aspirin. Primary and secondary outcomes of interest were MUA or postoperative hematoma within 90 days of surgery, respectively.

RESULTS:

462,425 patients met inclusion criteria. Of those, 148,159 (30.4%) received Aspirin, Factor Xa Inhibitors (123,909 [25.4%]), Warfarin (96,338 [19.8%]), and Low Molecular Weight Heparin (LMWH) (84,962 [17.4%]) as their chemoprophylaxis. Logistic regression revealed that those who received Factor Xa Inhibitors (Odds Ratio [OR] 1.38 [95% Confidence Interval (CI) 1.32 - 1.43], Indirect Factor Xa Inhibitors (OR 1.33 [95% CI 1.19 - 1.48]), Warfarin (OR 1.29 [95% CI 1.23 - 1.35]), and LMWH (OR 1.26 [95% CI 1.20 - 1.32]) had higher rates of MUA than Aspirin. Additionally, all anticoagulants were at a significantly higher risk of postoperative hematoma.

DISCUSSION AND CONCLUSION:

The use of Aspirin as VTE prophylaxis after TKA is associated with lower risks of MUA and postoperative hematoma. More granular studies are needed to elucidate the association between anticoagulation and these outcomes; however, the current study strengthens the authors' recommendation and preference to use Aspirin for VTE prophylaxis after primary TKA.