

Impact of Preoperative Prescription Anticoagulant and Antiplatelet Therapies on Postoperative Complications in Lumbar Laminectomy

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INTRODUCTION:

Venous thromboembolism (VTE) and arterial thromboembolic events are major causes of morbidity and mortality in the United States, and many patients are prescribed anticoagulants for prevention. In patients undergoing spine surgery, perioperative management of anticoagulant and antiplatelet (AC/AP) medications to balance hemorrhagic and thromboembolic risks lacks consensus.

The purpose of this study was to investigate the effect of preoperative AC/AP on postoperative complications in lumbar laminectomy.

METHODS:

An observational cohort study was conducted using the MarketScan Commercial Claims and Encounters and MarketScan Medicare Supplemental and Coordination of Benefits databases (Merative). Patients who underwent a laminectomy with or without instrumentation (CPT codes 63047, 63048) between July 1, 2020, and October 2, 2022, were included. Patients taking prescription anticoagulants in the 180 days prior to spine surgery were identified. Primary outcomes included 14-day reoperation for bleeding and postoperative VTE. The 90-day all-cause readmission, emergency department visits, myocardial infarction, and stroke rates were also reported. Patient demographics and comorbidities were collected. Multivariate logistic regression, adjusted for demographics, comorbidities, and surgical factors, was used to estimate differences.

RESULTS:

Among 14,461 laminectomy patients, 587 were identified as having received preoperative prescription anticoagulants. The likelihood of 14-day bleeding-related complications did not differ between patients taking preoperative anticoagulants (odds ratio [OR] = 1.06, 95% confidence interval [CI] = 0.72-1.56). However, the likelihood of VTE (OR = 12.49, 95% CI = 7.56-20.64) and ischemic stroke (OR = 5.57, 95% CI = 2.50-12.42) were higher in patients taking preoperative anticoagulants.

DISCUSSION AND CONCLUSION:

The risk of postoperative hemorrhage was not greater in patients taking anticoagulant prescriptions. However, the risks of 90-day VTE and stroke were higher in patients taking preoperative anticoagulants, after controlling for differences in patient demographics and comorbidities. Thus, while preoperative prescription anticoagulants do not appear to increase postoperative bleeding risk in this population, they are associated with a significantly higher risk of postoperative VTE and ischemic stroke, highlighting the need for careful perioperative management of anticoagulants.

