

Venous Thromboembolism Prophylaxis Safety Profile in Elective Spine Surgery

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INTRODUCTION: There is currently no consensus regarding pharmacologic venous thromboembolism (VTE) prophylaxis in elective spine surgery. The purpose of this study was to assess the safety profile of VTE prophylaxis in patients undergoing elective spine surgery.

METHODS: Patients who underwent elective spine surgery at a single institution from January 2019 to October 2019 were included for analysis. Patients were divided into two cohorts based on whether they received VTE prophylaxis or not. The patients' demographics, comorbidities, surgery performed, and surgical outcomes and complications were recorded via retrospective chart review. Multivariate regression analysis controlling for age, gender, body mass index, ethnicity, prior VTE, smoking, procedure type, levels fused, approach, instrumentation, operative time, estimated blood loss, and intraoperative complication was conducted to assess for any significant differences in postoperative hematoma, general postoperative complications, deep vein thrombosis (DVT), pulmonary embolism (PE), outpatient complications readmission, emergency department visits, and return to the operating room (OR).

RESULTS: Of the 318 patients, 247 patients received VTE prophylaxis, and 74 patients did not. After controlling for confounders with multivariate analysis, there was no significant difference in postoperative hematoma formation ($p=0.997$), general postoperative complications ($p=0.684$), DVT rates ($p=0.860$), PE rates ($p=0.984$), outpatient complications ($p=0.196$), return to the OR ($p=0.331$), likelihood of emergency department visits ($p=0.061$) and readmission rates ($p=0.071$).

DISCUSSION AND CONCLUSION: The present study found that patients who received VTE prophylaxis after undergoing elective spine surgery did not have a significant increase in postoperative hematoma, general complications, return to OR, ER visits, and hospital readmissions. In addition, VTE prophylaxis did not affect the rate of DVT or PE. Based on the present study's results, VTE prophylaxis does not increase the risk of postoperative complications in patients undergoing elective spine surgery.