

Evaluation of aspirin dose for post-operative venous thromboprophylaxis in major orthopedic surgery

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BACKGROUND

Venous thromboembolism (VTE) prophylaxis is a mainstay of post-operative management in patients undergoing major orthopedic surgery. However, the preferred agent, dosing regimen, and treatment duration remain controversial.

Current guidelines vary in their recommendation of the preferred antithrombotic medication in this setting, with recommended durations of prophylactic therapy ranging from 19-42 days.

The use of aspirin (ASA) has become an increasingly common antithrombotic therapy in this patient population due to low cost, low risk of bleeding and increasing efficacy data. However, the preferred dosing strategy is still debated.

This medication use evaluation will evaluate the incidence of symptomatic VTE among patients who receive differing ASA doses for VTE prophylaxis following major orthopedic surgery.

METHODS

Design

- Single-center, retrospective medication use evaluation
- Historical electronic health records were screened from January 2017 through December 2019; a total of 2,222 patients were screened for inclusion

Inclusion Criteria

- Major orthopedic surgery
- ASA 81 mg PO twice daily or 325 mg PO twice daily x 42 days post-operatively

Data Points

- Incidence of symptomatic deep venous thromboembolism (DVT) or pulmonary embolism (PE)
- ASA dose received post-operatively for the 42 day duration
- Days of ASA therapy until development of DVT or PE
- Orthopedic surgery performed

RESULTS

6/2,222 (0.3%) patients developed symptomatic VTE

2/1058 (0.2%) in ASA 81 mg group vs. 4/1164 (0.3%) in ASA 325 mg group

4/6 (67%) developed DVT; 2/6 (33%) developed PE

2/6 (33%) developed VTE after completion of ASA therapy

5/6 (83%) underwent total knee arthroplasty; 1/6 (17%) underwent total hip arthroplasty

LIMITATIONS

- Small sample size
- Unable to assess medication adherence following discharge
- Data limited to outpatient oral anticoagulant prescriptions following orthopedic surgery

FUTURE DIRECTIONS

- Prospectively evaluate differing aspirin regimens and rate of VTE
- Assess medication adherence following discharge
- Evaluate presence of risk factors that increase likelihood of developing VTE post-operatively

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DISCLOSURES

- The authors have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter.