

Aspirin is a safe alternative for VTE prophylaxis after total hip arthroplasty for femoral neck fracture

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INTRODUCTION:

Venous thromboembolism (VTE) is a well-known complication of lower extremity surgery. However, there remains a lack of consensus on the preferred agent for VTE prophylaxis following total hip arthroplasty (THA) for hip fracture. We aim to compare the bleeding risk and rate of VTE within 90 days postoperative for patients prescribed aspirin, enoxaparin, or the direct oral anticoagulants (DOACs) apixaban and rivaroxaban following THA.

METHODS:

The Epic Cosmos database was queried for 13,846 patients who underwent total hip arthroplasty (CPT 27130) for femoral neck fractures (ICD-10 S72.0) from October 2015 to March 2023. Patients were divided based on their postoperative anticoagulation regimen. The primary outcome included 90-day post-operative complications including deep vein thrombosis (DVT), pulmonary embolism (PE), anemia, periprosthetic joint infection (PJI), and transfusion.

RESULTS:

Patients prescribed enoxaparin and DOACs saw an increased rate of postoperative transfusions compared to those receiving aspirin (9.6% and 10.0% vs. 6.0%; $p < 0.001$). The DOAC cohort experienced greater rates of DVT compared to aspirin and enoxaparin (1.0% vs. $< 0.2\%$ and $< 0.4\%$; $p < 0.001$). Patients taking DOACs had higher rates of PE compared to the aspirin and enoxaparin groups (0.9% vs. 0% and $< 0.4\%$; $p < 0.001$). Enoxaparin and DOACs were associated with increased odds of postoperative transfusion (OR: 1.507, $p < 0.001$ and OR:1.276, $p = 0.038$). There were no significant differences in the rates of postoperative anemia and PJI.

DISCUSSION AND CONCLUSION:

VTE prophylaxis with aspirin after total hip arthroplasty for hip fracture is associated with a lower incidence of transfusion compared with enoxaparin or DOACs. Aspirin had an equivalent rate of DVT or PE compared to enoxaparin. Aspirin may be a safe alternative prophylaxis for VTE after THA for hip fracture.