Do Hypercoagulable Disease Patients Necessitate Tertiary Center Referrals for Total Joint Arthroplasty Care? A Matched Case-Control Series

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INTRODUCTION:
Few studies have investigated short-term perioperative outcomes of patients with a hypercoagulable disease state (HDS) such as Factor V Leiden, A1AT deficiency, Lupus anticoagulant, antiphospholipid syndrome, protein C deficiency and hyperhomocysteinemia. Optimal handling of HDS patient's perioperative management remains unknown and are often referred to tertiary centers for care. We investigated the influence perioperative hematology consultation and anti-coagulation use had on HDS patient outcomes of emergency department (ED) visits, readmissions (IP), and perioperative complications within 90-days of surgery.
METHODS:
This is a retrospective cohort study of a consecutive series of 6,568 primary THA or TKA from 2007-2019. Thirty-eight patients with HDS were identified. These patients were matched in a 3:1 allocation according to age (±12 years), BMI ((±7), CPT code (exact), gender (exact), and year of operation (±5 years). Patient demographics, comorbidities, perioperative hematology consultation, deep venous thrombosis (DVT) prophylaxis regimen with anticoagulation (AC) versus antiplatelet therapy, all cause ED visits, and readmission in a 90-day period were collected from the EMR. Statistical analysis was conducted utilizing a two-sample *t*-test for continuous variables and Pearson's chi-squared tests for categorical variables.
RESULTS:
The HDS cohort experienced greater perioperative hematology consultation ($p<.001$) and had greater use of AC ($p<.0001$) compared to the control cohort. Further, patients on AC therapy, compared to anti platelet therapy, had higher readmission rate within the 90-day period (10.0% vs. 1.4%, $p=.04$). Perioperative hematology consultation did not demonstrate significant difference in DVT rate (1.5% vs. 4.5%, $p=.35$), infection (1.5% vs. 0.0%, $p=1$), transfusion (5.4% vs. 9.1%, $p=.62$), 90-day ED visit (9.2% vs. 18.2%, $p=.25$), or length of stay ($p=.13$) between cases and controls. Additionally, patients with hematology consultation showed no statistical difference in readmission rate within a 90-day period (4.1% vs. 6.7%, $p=.69$).
DISCUSSION AND CONCLUSION: HDS patients experienced greater hematology consultation and greater use of AC for DVT prophylaxis. Meanwhile, rate of DVT, infection, transfusion, ED visits, and readmissions remained comparable. Overall, HDS patients did not demonstrate increased perioperative risk following TJA in the 90-day period, questioning the need for tertiary care center referrals, and supporting careful preoperative work up and close outpatient follow up in these scenarios.