Submission Id: 5380

Title

Direct Oral Anticoagulants: Probability of Recurrent Venous Thromboembolism and Bleeding Risk in an Obese Population

Priority 1 (Research Category)

Cardiovascular disease

Presenters

Amie Ashcraft, PhD, MPH, PhD, MPH, Benjamin Jackson, Courtney Pilkerton, MD, PhD, Charles Ponte, PharmD, Megan Adelman, PharmD, BCPS, BCGP, Jun Xiang

Abstract

Context: Direct-acting oral anticoagulants (DOACs) are the preferred drugs for managing venous thromboembolism. Despite their advantages over vitamin K antagonists such as warfarin, their use in obese patients remains controversial with many providers reluctant to switch patients managed on warfarin.

Objective: Conducted in the state with the highest obesity rate in the United States, this investigation evaluated whether patients with a BMI greater than 35 kg/m2 prescribed a DOAC had a higher risk for a recurrent VTE or bleed event relative to warfarin.

Study design & analysis: We conducted retrospective review of electronic medical records (EMR) from eligible patients in health system. Descriptive statistics were performed to examine patients' demographic and clinical characteristics. Chi-square tests were carried out to assess the association between outcomes and DOAC or warfarin use status. We utilized a two-sample t test to estimate differences in continuous covariates across outcomes. Logistic regression analysis was conducted to investigate the association between the outcomes and the independent variable adjusting for all covariates.

Setting or dataset: Data were extracted from patient EMR.

Population studied: Patients with a BMI greater than or equal to 35 kg/m2, who had a primary care provider within the health system, and were started on an anticoagulant between January 1, 2013, through January 1, 2018 (N = 1,635) were eligible.

Intervention/Instrument: Not applicable

Outcome measures: The three main outcomes for the study were recurrent thrombotic event, major bleed event, and any bleed event.

Results: Of the total study population (1635), 2.3% (37) had a recurrent thrombotic event, 5.5% (90) had a major bleed event, and 10.7% (175) had some type of bleeding event. No individual patient characteristic was associated with recurrent thrombosis – including BMI. Older age, antiplatelet use, and taking a medication with a theoretical risk of increasing the effect of DOACs were associated with any and major bleeding events. The use of warfarin was associated with major bleeding events more frequently versus a DOAC. BMI was not a predictor for recurrent VTE or any bleed or major bleed events.

Conclusions: These findings support DOACs as a safe and effective drug class for the management of venous thromboembolism in overweight and obese patients.