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Citation: Singer, A., et al. **Management and Outcomes of Bleeding Events in Patients in the Emergency Department Taking Warfarin or a Non-Vitamin K Antagonist Oral Anticoagulant.** *Journal of Emergency Medicine* 52 (1): 1-7, January 2017.

Clinical Question: Is there a significant difference in outcomes for hemorrhage in patients taking warfarin vs a NOAC?

Introduction: The investigators wanted to examine the clinical characteristics, interventions, and outcomes in patients who are taking warfarin or a NOAC who presented to the emergency department with a hemorrhage. They feel that the majority of the published literature is limited to admit patients in well-controlled, clinical trial situations.

Methods: The authors created a “structured” retrospective observational trial at their single ED (Stonybrook) of nonvalvular atrial fibrillation, pulmonary embolism, or deep vein thrombosis warfarin- or NOAC-treated patients presenting with any bleeding event to a large, academic ED between January 2012 and March 2015.

Results: 95 patients taking NOACs and 342 patients taking warfarin were included in the study. The authors summarized their data by stating, “Reversal agents were rarely used in all anticoagulant groups. Case fatality rates were similar among warfarin- and NOAC-treated patients for gastrointestinal bleeding (7% vs. 7%) and intracranial hemorrhage (18% vs. 4%), respectively. After adjustment for other factors, only intracranial hemorrhage (odds ratio 4.4; 95% confidence interval 1.4–13.3) was associated with mortality.”

Discussion: Given the nature of most ED presentations of “bleeding” as a complaint, mortality was low and outcomes were comparable. Overall there was no significant difference in mortality, and the subgroup analysis for ICH demonstrated worsened outcome with NOACs. This paper adds to the field of literature by including minor bleeding events, for which there appears to be no clinically significant difference for treatment with a NOAC vs warfarin.
