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### Evaluation of Antiplatelet-Related Bleeding Events in a Community Hospital

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## ABSTRACT

**Title:** Evaluation of Antiplatelet-Related Bleeding Events in a Community Hospital

**Background/Purpose:** Bleeding rate among patients who take high-dose aspirin is approximately 1.92% with an expected 2-3 fold increase after a second antiplatelet is added. Similarly, the addition of an anticoagulant to single or dual antiplatelet therapy results in increased bleeding rates of approximately 13.9% and 15.7% respectively. The concomitant use of antiplatelets and anticoagulants has become a common practice due to the high incidence of clinical conditions for which these agents are used. Hence, reversal of antithrombotic agents is often needed during major bleeding events or invasive procedures. However, the use of antiplatelet reversal is still under-utilized, and its efficacy on patient outcomes remains to be tested. The purpose of this project is to assess the incidence of bleeding, reversal strategies, mortality rates, and thrombotic events in patients with a major bleeding event receiving antiplatelets with or without concomitant anticoagulants.

**Methods:** A retrospective chart review was conducted over a one-year period. Patients 18 years and older taking an antiplatelet excluding low dose aspirin alone at the time of the major bleeding event were included in the study. A major bleeding event was defined as bleeding into a critical area/organ, fall in hemoglobin of  $\geq 20$  g/L, or transfusion of  $> 2$  units of blood. Subjects were divided into two groups: intracranial and non-intracranial hemorrhage. Patient outcomes will be analyzed based on bleeding severity, causative agents, and reversal strategies utilized.

**Results:** We identified 21 patients with ICH and 38 with Non-ICH. Bleeding rates among patients who had a major bleeding event were as follows: 12.4% of patients on antiplatelet therapy, 2.4% on APT monotherapy, 5.4% on DAPT, and 4% on APT plus an anticoagulant. A reversal strategy was utilized 68% of the time for the reversal of antiplatelets in the setting of an ICH compared to 18% in the Non-ICH group. Our findings suggest that mortality, readmission, and thrombotic events are not affected by bleeding severity or reversal strategy utilized.

**Discussion:** Antiplatelet therapy with or without anticoagulation could increase the risk for a major bleeding event. At Baptist Hospital of Miami, antiplatelet reversal is conducted in accordance with current societal guideline recommendations. However, there is opportunity for improvement in the reversal of antiplatelet agents when utilized concomitantly with an anticoagulant.