

BLEED RISK OF PRASUGREL VERSUS TICAGRELOR IN THE SETTING OF PERCUTANEOUS CORONARY INTERVENTION IN OLDER ADULTS

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Background:

Antiplatelet therapy is vital for acute coronary syndromes (ACS), especially post-percutaneous coronary intervention (PCI) in ST-elevated-myocardial infarction (STEMI) or Non-ST-elevated ACS (NSTEMI-ACS). Potent P2Y₁₂ inhibitors, prasugrel and ticagrelor, outperform clopidogrel in reducing thrombotic events but increase bleeding risk, particularly in older adults. The POPular-AGE trial compared clopidogrel to ticagrelor/prasugrel in NSTEMI-ACS patients aged ≥ 70 , finding lower bleeding and non-inferior net clinical benefit with clopidogrel. The ACC/AHA guidelines recommend potent agents, ticagrelor and prasugrel, but balancing ischemic and bleeding risks in older adults remain challenging. Currently evidence is sparse supporting the utilization of either agent over the other in this population.

Objective:

The study aims to compare safety and efficacy of ticagrelor versus prasugrel in older adults. The primary outcome is the incidence of bleeding using the Platelet Inhibition and Patient Outcomes (PLATO) defined major and minor bleeding in patients aged ≥ 70 years receiving ticagrelor compared to prasugrel. Secondary outcomes include incidence of bleeding defined by Bleeding Academic Research Consortium (BARC), all-cause mortality, myocardial infarction, stroke, 30-day hospital readmission, incidence of stent thrombosis, and discontinuation incidence.

Methods:

This retrospective chart review will evaluate adults aged ≥ 70 years hospitalized at a large teaching hospital with STEMI or NSTEMI-ACS who underwent PCI between March 1, 2024, and August 31, 2024, and were discharged on prasugrel or ticagrelor, with a 12-month follow-up. Exclusion criteria include medical management without PCI, emergent CABG, planned clopidogrel deescalation within 30 days, ticagrelor use, and lack of follow-up.

Demographic data collected includes comorbidities associated with increased bleeding risk, laboratory values, cardiovascular history, PCI characteristics, antiplatelet selection and dosing, concomitant antithrombotic therapy, discharge medications, readmissions, follow-up encounters, therapy discontinuation or switching, and thrombotic or cardiovascular events. Clinical data collection includes major and minor bleeding events according to PLATO and BARC bleeding classifications. Additional data includes all-cause mortality, thrombotic events, ASCVD events, and hospital readmission. Case-matched analysis will be used based on incidence volume. Descriptive analyses will be performed for the primary outcome and comparative analysis will be performed for categorical and continuous variable, with significance defined as $p < 0.05$. This research was deemed exempt by an institutional review board and approved by the quality improvement committee.

Results: In progress

Conclusions: In progress