The Impact of Clinical Presentation on the Degree of Platelet Inhibition at Baseline and Following Glycoprotein IIb/IIIa Receptor Blockage in Patients Undergoing Percutaneous Coronary Intervention

Daniel Soffer, Gurkan Taviloglu, Gishel New, Edward Kreps, Michael Collins, Sriram Iyer, Gary Roubin, Jeffrey Moses, Neil Coplan, Issam Moussa, Lenox Hill Heart and Vascular Institute, New York, NY

Background: Glycoprotein (GP) IIb/IIIa platelet receptor antagonists have been shown to improve outcomes in acute coronary syndromes (ACS) and percutaneous coronary interventions (PCI). The impact of clinical presentation on the degree of platelet inhibition (PI) with GP IIb/IIIa inhibitors is still controversial. We sought to investigate the extent of variability in PI between pts with ACS and pts with stable angina who undergo PCI requiring GP IIb/IIIa inhibitor.

Methods: We measured platelet inhibition (PI) in 42 pts who underwent PCI and required GP IIb/IIIa inhibitor tirofibin (bolus: 10 μg/kg, infusion: 0.15 μg/kg/min) or abciximab (bolus: 0.25 mg/kg, infusion: 0.125 μg/kg/min). Pts were classified according to the Braunwald unstable angina (UA) classification. Group I included 24 pts with stable of class I UA; Group II included 18 patients with class II or III UA. Platelet inhibition was measured with the ICHOR CBC analyzer (Array Medical), using 20 micromole of ADP. All pts received ASA and clopidogrel prior to procedure. Baseline PI was measured prior to GP IIb/IIIa administration and at 15 min post bolus.

Results: Baseline characteristics and risk factors did not differ between gropus. Group I had *higher* PI compared with Group II at baseline (mean±SE: 26±4% vs 13±4% for Group I and Group II respectively, $p<0.05$) and at 15 minutes following GPIIb/IIIa administration (74±3% vs. 50±5% for Group I and Group II respectively, $p<0.0001$). In multivariate regression analysis, angina class was the only predictor of PI of >70%, $p<0.0005$).

Conclusion: Pts with acute coronary syndromes have lower platelet inhibition than pts with stable angina, both at baseline and following GPIIb/IIIa blockade. Further studies are needed to establish whether dose adjustment is necessary in pts with acute coronary syndromes undergoing coronary intervention.

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