

Plasugrel as Compared with Clopidogrel Has a More Potent Anti-Platelet Effect Early Post- STEMI

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Background: Prasugrel, as compared with clopidogrel, reduces ischemic complications in patients with acute coronary syndrome (ACS) undergoing percutaneous coronary intervention (PCI). In patients with stable coronary artery disease prasugrel has a more potent and consistent anti-platelet effect than clopidogrel. While ACS is associated with increased platelet activation, the anti-platelet effect of prasugrel has not been sufficiently studied in this important patient subset.

Methods: The study comprised 120 consecutive ST-elevation ACS patients undergoing primary PCI. Patients older than 75 years, weight < 60 kg, or with a history of stroke were excluded. Sixty patients were treated with clopidogrel (600/75 mg) and 60 with prasugrel (60/10 mg). ADP-induced platelet aggregation (PA) was determined with light transmittance aggregometry 72 hours post loading. Patients were followed up for in-hospital thrombotic complications.

Results: Baseline characteristics and angiographic findings were comparable between the two study groups. Compared with clopidogrel, prasugrel treated patients had significantly lower ADP-PA (29±13% vs. 46±16%, p< 0.001). Accordingly, patients treated with prasugrel were less likely to be non- responders (ADP-PA >70%) or to show sub-optimal response (ADP-PA > 50%) as compared with clopidogrel (1.7% vs. 12%, p=0.06 and 12% vs. 40%, p<0.001 respectively). One patient who was treated with clopidogrel sustained early stent thrombosis.

Conclusion: In STE-ACS patients undergoing primary PCI prasugrel compared with clopidogrel results in greater platelet inhibition.