

A small icon of a person's head and shoulders, representing a patient or a person affected by the condition.**HYPERTENSION, LIPIDS AND PREVENTION****DECREASED RESPONSE TO CLOPIDOGREL IS A RISK FACTOR FOR CARDIOVASCULAR EVENTS AFTER STENT IMPLANTATION : CROSS VERIFY STUDY**

ACC Poster Contributions

Georgia World Congress Center, Hall B5

Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: Anti-platelet Agents and Coronary Artery Disease

Abstract Category: Pharmacology/Hormones/Lipids—Clinical

Presentation Number: 1073-92

Authors: *Chi-hoon Kim, Kyung-Woo Park, Kihyun Jeon, Si-Hyck Kang, Kyung-Hee Kim, Hae-Young Lee, Hyun-Jae Kang, Bon-Kwon Koo, Dae-Won Sohn, Byung-Hee Oh, Young-Bae Park, Hyo-Soo Kim, Cardiovascular center, Seoul National University Hospital, Seoul, South Korea*

Introduction: Decreased platelet responsiveness to clopidogrel has been shown to be a risk factor of thrombotic complication after percutaneous coronary intervention (PCI) in Caucasians. However, this has not been verified in an Asian population. Previous studies have also shown that non-Caucasian have higher mean post-treatment residual platelet reactivity than Caucasians. We studied whether decreased platelet responsiveness measured by VerifyNow, a point-of-care platelet function assay, is a risk factor of thrombotic complications after elective PCI in an Asian population.

Methods: We measured the platelet responsiveness with VerifyNow P2Y12 assay (Accumetrics Inc, San Diego, Calif) in 814 consecutive patients who underwent elective PCI with stent implantation. All patients received standard dual antiplatelet therapy for 12 months. Study endpoints were stent thrombosis and a composite of cardiovascular death or non-fatal MI at 12-month follow up.

Results: The mean P2Y12 reaction unit (PRU) and inhibition percent was 230.8 ± 79.0 and $23.2 \pm 21.0\%$, respectively. The optimal cut-off value for predicting 12-month stent thrombosis by receiver operating characteristic (ROC) curve analysis was percent inhibition $<5\%$ (AUC 0.772, 95% CI 0.689-0.856, $P=0.013$) or platelet reaction unit (PRU) ≥ 275 . The incidence of thrombotic complications was significantly higher in non-responder to clopidogrel, defined by PRU inhibition percent $< 5\%$ than in responders: stent thrombosis (2.1% vs 0%, $P=0.01$), cardiovascular death (1.5% vs 0.6%, $P=0.196$) and non-fatal MI (1.8% vs 0.2%, $P=0.022$).

Conclusions: Mean platelet reactivity in this study was higher than those previously reported in Caucasians. Clopidogrel non-responsiveness, defined as P2Y12 inhibition percent $< 5\%$, as well as PRU >275 , was shown to be a risk factor of stent thrombosis, cardiovascular death and non-fatal MI in elective PCI patients in this Korean population.