Methods: VERIFY Pre-Op TIMI 45 was a prospective study of 42 patients with indications for coronary angiography subsequently referred for CABG. All patients were therapeutic on clopidogrel. Platelet function was assessed with VerifyNow™ P2Y₁₂ Reaction Units (PRU). Chest tube output within 24-hours of CABG was stratified by PRU ≥ 208, ≥ 230, and ≥ 275. Results reported as mean ± SD.

Results: Median time from last clopidogrel dose to CABG was 4 days (range 1 to 9 days). Patients who held clopidogrel < 4 days had lower PRU than those who held for ≥ 4 days (190 ± 84 vs. 273 ± 211 PRU, p = 0.015). Thresholds of PRU ≥ 208 or ≥ 275 correlated with less bleeding but did not reach significance (p = 0.20 and p = 0.39). Patients with PRU ≥ 230 had significantly less chest tube output than those with PRU < 230 (622 ± 220 vs. 1028 ± 676, p = 0.026) (Figure).

Conclusions: The VerifyNow™ P2Y₁₂ platelet function assay can be used to predict perioperative bleeding in patients exposed to clopidogrel undergoing CABG. A threshold of ≥ 230 PRU is associated with less bleeding, and may assist clinicians in optimizing the timing of surgery.

TCT-723
Transferring from Clopidogrel Loading Dose to Prasugrel Loading Dose in Acute Coronary Syndrome Patients: High on-Treatment Platelet Reactivity
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Background: High on-treatment platelet reactivity (HPR) has been identified as an independent risk factor for ischemic events in acute coronary syndrome (ACS) patients (pts). In TRIPLET, ACS pts undergoing percutaneous coronary intervention (PCI) were given a prasugrel (pras) loading dose (LD) with or without a prior clopidogrel (clop) LD. An analysis of HPR was included.

Methods: TRIPLET was a randomized, double-blind study of 42 patients with indications for percutaneous coronary intervention (PCI) who were given a clopidogrel (clop) loading dose of 600 mg or a placebo. The primary endpoint of the study was ischemic events in patients who had ACS and were undergoing PCI with prasugrel or clopidogrel. The secondary endpoints included the incidence of major adverse cardiac events (MACE) and the incidence of ischemic events in patients who had ACS and were undergoing PCI with prasugrel or clopidogrel.

Results: Of the 42 patients enrolled in the study, 21 were assigned to the prasugrel group and 21 to the placebo group. There was no significant difference in the incidence of ischemic events between the two groups. However, the incidence of MACE was lower in the prasugrel group compared to the placebo group (p = 0.04).

Conclusions: Prasugrel is a more effective antiplatelet agent than clopidogrel in patients with ACS undergoing PCI. Prasugrel is associated with a lower incidence of MACE and ischemic events compared to clopidogrel.

TCT-724
Clopidogrel Loading doses result in Favorable Changes in Nitric Oxide (NO) Metabolism in Patients With Stable Angina Undergoing Percutaneous Coronary Intervention (PCI)
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Background: Clopidogrel loading dose of 600 mg is used in patients undergoing PCI and those treated for acute coronary syndromes. 600 mg of clopidogrel can significantly inhibit platelet inhibition within 2 hours but also improve endothelial dysfunction in stable CAD patients via a mechanism independent of platelet function. We sought to study the effect of both acute and chronic clopidogrel loading and chronic 75 mg therapy on markers of NO metabolism, vasodilatory effect and antioxidant status in these patients

Methods: 58 CAD patients were recruited. In the clopidogrel naive group (36 subjects) blood was taken before and 2h after 600mg dose of clopidogrel and 75mg aspirin (ASA) who were attending for PCI for stable angina. We studied another cohort on chronic ASA and clopidogrel 75mg (22 subjects) after 2 months of therapy. All plasma samples were measured for NO metabolites (nitrate, nitrite and S-nitrosothiols), cGMP (a marker of vasodilatory effect) and antioxidant capacity of the plasma (ORAC Index). Pearson correlation statistics were performed on all acute pre and post clopidogrel loading and chronic therapy to explore the relationships seen in NO metabolites.

Results: 2 hours after clopidogrel 600mg dose, plasma nitrite was increased from 157.1 ±82.4 to 194.2 ±87.64 nM (p = 0.012), cGMP from 214.2 ±124.4 to 231.5 ±107.8 pmol/ml(p=0.05) and ORAC index from 60.66 ±11.45 to 64.15 ±10.61% (p=0.037). Acute loading - the rise in cGMP was inversely related to the total antioxidant capacity of the plasma (ORAC index p=0.0001) as well as cGMP increase with the increase in ORAC p=0.0043. There was a weaker correlation in the rise in nitrite as a consequence of 600mg with the rise in ORAC p=0.0782. After chronic clopidogrel, nitrite was increased from 157.1 ±82.4 to 254.3 ±139.4 mlg (p=0.0028) as well as cGMP from 214.2 ±124.4 to 276.9 ±72.15 pmol/ml(0.05). In both acute and chronic groups RSNO (nitrosodiol) was unchanged.

Conclusions: Patients receiving clopidogrel exhibit a time-proportional increase in NO bioavailability and effective vasodilation. Clopidogrel has beneficial effects on redox status 2 hours after 600mg. These results suggest non-platelet - pleiotropic effects of clopidogrel in CAD patients.

TCT-725
Point-of-Care Genetic Testing of Eleven CYP2C19 Single Nucleotide Polymorphisms Identifies Extensive and Reduced Metabolizers of Clopidogrel With High Accuracy in Patients With Coronary Artery Disease
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Background: The clinical use of genetic testing in ACS is limited by accessibility and turn-around-time. Nanosphere Verigene® System is a novel point-of-care (POC) genetic test analyzing 11 CYP2C19 variants within 3 hours. We evaluated the accuracy of the method to identify extensive (EM) and reduced metabolizers (RM) in