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PLATELET INDICES ARE NOT ASSOCIATED WITH OCCURRENCE OF PERIPROCEDURAL MYOCARDIAL INFARCTION IN PATIENTS UNDERGOING PERCUTANEOUS CORONARY ANGIOPLASTY.

Poster Contributions

Hall C

Sunday, March 30, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Complexities and Complications

Abstract Category: 38. TCT@ACC-i2: Complex Patients/Comorbidities

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Background: Platelet indices such as platelet count, mean platelet volume (MPV), platelet distribution width (PDW) and MPV/P ratio have been proposed as markers of platelet activation. No comprehensive data are available on relationship between platelet indices and periprocedural outcome in patients (pts) undergoing percutaneous coronary intervention (PCI). At the same time, high on treatment platelet reactivity (HTPR) has been associated with increased incidence of periprocedural myocardial infarction (PMI) in PCI pts. Aim of this study was to investigate the correlation of platelet indices and platelet reactivity with occurrence of PMI in pts receiving PCI.

Methods: 502 consecutive pts treated with clopidogrel, undergoing PCI had preprocedural measurement of platelet indices (platelet count, MPV, PDW and MPV/P ratio) and platelet reactivity; the latter was assessed by the point-of-care VerifyNow P2Y12 assay and expressed as P2Y12 reaction units (PRU). Primary end point was incidence of PMI according to tertiles of different platelet indices and platelet reactivity.

Results: Incidence of PMI in overall population was 6.6% (33 pts). Rates of PMI were not different among tertiles of platelet count (I tertile 6.0%, II tertile 7.1%, III tertile 6.5%; $P=0.74$), MPV (I tertile 6.6%, II tertile 7.3%, III tertile 5.8%; $P=0.86$), PDW (I tertile 7.2%, II tertile 7.2%, III tertile 5.4%; $P=0.74$), MPV/P ratio (I tertile 6.6%, II tertile 6.0%, III tertile 7.1%; $P=0.91$). A significant difference in incidence of PMI was identified among PRU tertiles (I tertile 3%, II tertile 5.4%, III tertile 11.4%; $P=0.006$); mean absolute PRU levels were significantly higher in pts with PMI (262.4 ± 66.7 vs 216.5 ± 79.7 ; $P=0.001$). No differences were observed between pts with and without PMI in terms of platelet indices.

Conclusions: This study showed no correlation between platelet indices and occurrence of PMI in pts undergoing PCI, confirming that HTPR is associated with increased incidence of PMI. Our data suggest that platelet indices alone are not able to identify pts at high risk of PMI, but use of a bedside assay for monitoring platelet reactivity remains a useful tool for periprocedural risk stratification.