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Acute Coronary Syndromes

COMPARISON BETWEEN A NEW GRADING SCALE INCLUDING PLATELET FUNCTION TEST AND THE CURRENT BLEEDING SCALES IN PATIENTS WITH ACUTE CORONARY SYNDROME USING PRASUGREL

Poster Contributions
Poster Hall B1
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Session Title: Conquering the Platelet and More for Better Outcomes
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Background: Bleeding is recognized as a major risk factor for mortality after coronary intervention. New antiplatelet agents reduced the ischemic events with a tradeoff of bleeding risks. However, the current bleeding scales were largely made by the patient factors, and therefore, they might be unreliable in cases using potent antiplatelet agents. In these patients, the degree of platelet inhibition might be considered as a risk factor of bleeding events.

Methods: A 250 patients with acute coronary syndrome were enrolled in the A-match (Fixed-dose vs. Phenotype-based PrAsugrel Dose to MATCH Therapeutic Zone in Asians With Acute Coronary Syndrome) trial. In brief, the study was designed to compare the fixed-dose (prasugrel 10 mg/day versus 5 mg/day) vs. platelet function test-based prasugrel dose adjustment. We reappraised the bleeding scales driven by the Replace studies (Replace score) and the ACUITY/HORIZONS-AMI study (Acuity score), and then evaluated the predictive power of a new grading system adding platelet function test by VerifyNow P2Y12 assay to the previous scales. Bleeding events were defined as the bleeding Academic Research Consortium type 2 to 5 bleedings.

Results: During the 30-days study period, 18 (7.2%) bleeding events occurred. In the ROC curve analysis, both Replace and Acuity scores did not show the adequate discriminant power (AUC = 0.550, 95% CI = 0.428 - 0.673, p = 0.476 and AUC = 0.584, 95% CI = 0.445 - 0.722, p = 0.237, respectively). However, Platelet reactivity unit (PRU) ≤ 88 showed the fair discriminant power for bleeding events (AUC = 0.645, 95% CI = 0.582 - 0.704, p = 0.04). In the multivariate analysis including all risk factors in the previous scores, PRU ≤ 88 was the only predictor of bleeding events (Odd ratio = 5.150, 95% CI = 1.547 - 17.151, p = 0.008). Replace or Acuity scores plus PRU ≤ 88 showed the fair discriminant power for bleeding events (AUC = 0.645, 95% CI = 0.501 - 0.789, p = 0.041 and AUC = 0.645, 95% CI = 0.527 - 0.762, p = 0.041, respectively).

Conclusion: The previous bleeding scales were not reliable in patients using prasugrel. A new grading system including platelet function test might be a useful tool to predict bleeding events in cases using potent antiplatelet agents.