



Mean Platelet Volume Addition in Grace Score as Predictor of Major Cardiovascular Events during Treatment among Acute Coronary Syndrome Patients

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Abstract : Background: Acute Coronary Syndrome (ACS) is a term used to describe symptoms caused by Acute Myocardial Infarction (AMI). At present, risk stratification is carried out with the use of a Global Registry of Acute Coronary Events (GRACE) score as a validated predictor for cardiovascular events among ACS patients. Mean platelet volume (MPV) is an accurate marker of platelet size and can be considered that to be added to the GRACE score to increase the predictive value of the occurrence of major cardiovascular events (MACE). This study aims to seek the comparison between GRACE score independently and GRACE score with the addition of MPV values in predicting major cardiovascular events during in-hospital care in ACS patients.

Methods: This study was ambispective cohort study of 219 ACS patients from November 2017 to November 2018. GRACE scores and MPV values were calculated and mace was observed during hospital treatment. An analysis was performed to see the role of MPV addition to GRACE scores in predicting MACE.

Results: MPV values and GRACE scores were found to be increased in patients with MACE compared with those who did not. Area under curve (AUC) on the ROC curve obtained 0.786 (95% CI: 0.717-0.855, $p < 0.001$) when the GRACE score was calculated independently, and increased to 0.810 (95% CI: 0.620-0.775, $p < 0.001$) with addition MPV which indicates a combination of MPV and GRACE score increases predictive value.

Conclusion: The addition of the MPV value to the GRACE score provides a higher predictive value in predicting MACE in ACS patients in hospital care.

Keyword : GRACE, MPV, ACS.

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