

Platelet to Lymphocyte Ratio as a Predictor of Infarct-Related Artery Patency in Patients Undergoing Primary Percutaneous Coronary Intervention

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Abstract: Background: In myocardial infarction (MI) patients, myocardial reperfusion and subsequently, early infarct related artery (IRA) patency are very critical in this emergency situation. Recently, there is growing research on the ability of platelet to lymphocyte ratio (PLR) to be a predictor of outcome and its value as a marker for inflammation and coagulopathy detection. Our work aims at finding the relation between PLR and the prognosis of IRA in STEMI patients. Methodology: Two hundred cases presented with STEMI were included for the study. Patency of IRA was estimated by Thrombolysis In Myocardial Infarction (TIMI) grade. Patent IRA was defined as TIMI grade III flow and occluded IRA was defined as TIMI grade 0-II flow. Blood samples were withdrawn on admission at emergency department to calculate PLR. Results: Forty-one (20.5%) cases revealed before pPCI TIMI 3 flow in IRA. PLR was significantly higher in occluded group with mean PLR 231.3 ± 94.2 vs mean PLR 100.95 ± 37.7 in patent group with P value <0.0001 . Multivariate regression analysis demonstrated, both HTN [95% CI (-0.135)-(-0.747)] & PLR ratio [95% CI (-0.001)-(-0.002)] together are the most independent predictors for TIMI flow in IRA (F-ratio=12.2, $p<0.001$). Conclusion: our results show that a higher Platelet lymphocyte ratio is an independent predictor of IRA patency in cases with STEMI before pPCI.

Keywords: PLR, IRA, pPCI