51st CARDIOCON 2022: ABSTRACT

A PROSPECTIVE STUDY TO IDENTIFY THE BEST PREDICTOR OF IN-HOSPITAL MORTALITY IN PATIENTS UNDERGOING EMERGENT PERCUTANEOUS CORONARY REVASCULRIZATION; COMPARATIVE ANALYSIS OF FOUR WELL ESTABLISHED RISK SCORES

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Objectives: This study was conducted to compare the predictive power of Shock Index (SI), TIMI Risk Index (TRI), LASH Score, and ACEF Score for the prediction of in-hospital mortality in a contemporary cohort of ST-segment elevation myocardial infarction (STEMI) patients undergoing primary percutaneous coronary intervention (PCI) at a tertiary care cardiac center of a developing country.

Methodology: Consecutive patients diagnosed with STEMI and undergoing primary PCI were included in this study. SI, TRI, LASH, and ACEF were computed and their predictive power was assessed as the area under the curve (AUC) on the receiver operating characteristics (ROC) curve analysis for in-hospital mortality.

Results: A total of 977 patients were included in this study, 780 (79.8%) of which were male, and the mean age was 55.6 ± 11.5 years with 149 (15.3%) under 45 years of age. At presentation, 101 (11.4%) patients were in Killip class III/IV, 121 (12.4%) had arrhythmias, 59 (6%) were in cardiac arrest, and 130 (13.3%) were intubated. The in-hospital mortality rate was 4.3% (42). AUC for TRI was 0.669 (cut-off: ≥17.5, sensitivity: 76.2%, specificity: 45.6%). AUC for SI was 0.595 (cut-off: ≥0.9, sensitivity: 21.4%, specificity: 89.8%). AUC for LASH score was 0.745 (cut-off: ≥0, sensitivity: 76.2%, specificity: 66.9%). AUC for the ACEF score was 0.786 (cut-off: ≥1.66, sensitivity: 71.4%, specificity: 73.5%).

Conclusion: In conclusion, ACEF showed sufficiently high predictive power with good sensitivity and specificity compared to other three scores. These simplified indices based on readily available hemodynamic parameters can be reliable alternatives to the computational complex scoring systems for the risk stratification of STEMI patients.

Keywords: Percutaneous coronary intervention, acute myocardial infarction, percutaneous coronary revasculrization, STEMI, TIMI flow

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