Abstract

Objectives: The SYNTAX score (SXscore) has emerged as a reproducible angiographic tool to quantify the extent of coronary artery disease based on the location and complex-ity of each lesion. The aim of this study was to evaluate whether the SXscore is an independent predictor of no-reflow phenomenom and long-term cardiovascular outcomes in patients presented with acute ST-segment elevation myocardial infarction (STEMI) treated with primary percutaneous coronary intervention (pPCI).

Methods: A total of 760 patients with acute STEMI who were subjected to pPCI. Patients were categorized according to their TIMI flow grade into: normal flow (TIMI 3) 657 patients (86.4%) and noreflow (TIMI 0,1,2) 103 patients (13.6%) and according to Syntax scores into: mild (0-22)→ 292 patients who constituted 38.4% of the study group, moderate (23-32) → 338 patients who constituted 44.5% of the study group, severe (>32) → 130 patients who constituted 17.1% of the study group.

Results: There were significant differences among the normal flow and noreflow groups with respect to age, basal glucose levels, and the incidences of diabetes mellitus, Killip class, onset of presentation, TIMI risk score and previous use of statins. There were increasing rates of culprit left anterior descending lesion (P < .001). No-reflow phenomenon was correlated to SYNTAX score, (r value .682, P value <.001).At longterm follow-up, all-cause mortality, non-fatal myocardial infarction, stroke, rehospitalization due to heart failure, and the need of revascularization were significantly more frequent among the patients in the noreflow group and highest SXscore. In multi-variate analysis, after including the SXscore as a numerical variable into the model, every point of increase was determined as an independent predictor for long-term mortality (hazard ratio [HR] 1.8, 95% confidence interval [CI] 1.139-2.95, P .013) and for overall major adverse cardiac events (MACEs; HR 1.44, 95% CI 1.33-1.56, P < .001).

Conclusion: The SXscore is an independent predictor of noreflow and MACE in patients with acute STEMI undergoing pPCI.

Keywords: acute coronary syndromes, SYNTAX score, noreflow.