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Syntax score as a predictor of no reflow in patients presented with STEMI treated by primary PCI

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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 complexity of each lesion. The aim of this study was to evaluate whether the SXscore is an independent predictor of no-reflow phenomenon 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 noflow (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 noflow 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 noflow 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 noflow and MACE in patients with acute STEMI undergoing pPCI.

Biography

Ibrahim Mahmoud Mohamed is recently working at Critical Care Department, Cairo University Hospital, Egypt. He completed his Bachelor of Medicine & Surgery (MBBCh), (Excellent with Honors) from Cairo University 2007 Cairo, Egypt. After that he completed his master's degree and M.D. Degree in Critical Care Medicine from Cairo University 2016 Cairo, Egypt. Recently working in Critical care department, Cairo University. Provided clinical care to patients at the Critical Care Centre (52 beds), including on-call commitment. Weekly follow-up clinic for critical care patients post-discharge. Weekly educational meetings included: Joint Critical Care and Cardiothoracic Surgery Conference; Critical Care Journal Club. Comprehensive Critical Care Training Program. Covered Emergency Department on-call team for physiologically unstable patients. It consists of a 3-year program; residents acquire clinical, procedural, and decision-making skills from senior residents and staff members through attending daily clinical rounds and CME program. Every year he is evaluated by a written, oral, and clinical exam. By the end of the program, resident becomes responsible of the admission and management of patients, conducting evening clinical rounds, supervision and education of junior staff, and directly involved in scientific and clinical activities. Previously he worked in Elsalam International Hospital in medical and surgical ICU for 3 years from 2012 to 2015. Observership for one-month duration from 01/09/2014 to 30/10/2014 in Royal Free Hospital in London. UK. Saudi German Hospital in Cairo for 2 years from 2015 to 2017 and still working there as senior registrar.

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