

**AO 1895****Comparison of clinical and anatomical scores to predict outcomes in primary percutaneous coronary interventions**

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**BACKGROUND.** Different scores have been developed for risk stratification of patients undergoing percutaneous coronary intervention (PCI) based on clinical and/or anatomical features. Studies comparing the ability of these different models in predicting cardiac events in patients submitted to primary PCI are limited. Moreover, the use of pure anatomical scores, such as the SYNTAX score, in ST-elevation myocardial infarction (STEMI) is still controversial. **PATIENTS AND METHODS.** We analyzed 311 patients with STEMI submitted to primary PCI between April/2011 and December/2015. The major adverse cardiac and cerebrovascular events (MACCE) analyzed were death, reinfarction, stent thrombosis, stroke, Canadian Cardiovascular Society (CCS) class 3 or 4 angina or rehospitalization for congestive heart failure 30 days after primary PCI. ROC curve analysis was used to assess the ability of SYNTAX (SS), Clinical SYNTAX (CSS), ACEF and Modified ACEF scores in predicting MACCE. SS was calculated at the baseline angiography before opening the culprit vessel. ROC curves were compared two-by-two using DeLong test. The CSS is an incorporation to traditional SS (angiographic characteristics) of the variables used in modified ACEF score (age, creatinine clearance and left ventricular ejection fraction). **RESULTS.** The mean age ( $\pm$  SD) of the patients was  $60.2 \pm 12.0$  years, being 64.6% males and 22.5% diabetics. The median (IQR) door-to-balloon time was 68 (55.0-90.0) minutes and the radial access was used in 57,2% of cases. The incidence of MACCE in 30 days was 23.8%. The areas under the ROC curve were 0.586 ( $p = 0.028$ ) for ACEF, 0.616 ( $p = 0.003$ ) for SYNTAX, 0.623 ( $p = 0.002$ ) for Modified ACEF and 0.658 ( $p < 0.001$ ) for Clinical SYNTAX score. The two-by-two comparison showed no statistical difference, except for ACEF versus Clinical SYNTAX ( $p = 0.02$ ). In a multivariate analysis, after adjusting for clinical variables, only SYNTAX ( $p = 0.011$ ) and Clinical SYNTAX ( $p = 0.002$ ) remained independent MACCE predictors. **CONCLUSIONS.** SYNTAX and Clinical SYNTAX scores were independent MACCE predictors, with no difference in the ROC curves comparison. In our cohort of patients undergoing primary PCI, pure anatomical SYNTAX score calculated at the baseline coronary angiography was a useful tool to predict MACCE in STEMI patients. **Key words:** Percutaneous coronary intervention; ST-elevation myocardial infarction