

Association of SYNTAX Score With Abdominal Aortic Intima-Media Thickness in Non-ST Elevation Myocardial Infarction

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We read the paper by Icen et al entitled “Coronary Artery Disease Severity Is Associated with Abdominal Aortic Intima-Media Thickness in Patients with Non-ST-Segment Elevation Myocardial Infarction” with interest.¹ They evaluated the relationship between aortic intima-media thickness (aIMT) and coronary artery disease (CAD) severity in patients who presented with non-ST segment elevation myocardial infarction (NSTEMI). A total of 279 patients with NSTEMI were divided into 2 groups according their SYNTAX scores (SS; low SS group <13; higher SS group ≥13). In binominal logistic regression analysis, carotid IMT (cIMT), aIMT, and left ventricle ejection fraction were independent predictors of higher SS. A cutoff value of 1.25 mm for aIMT predicted a higher SS with 74.1% sensitivity and 89.4% specificity in receiver operating characteristic (ROC) analysis which was better than for cIMT (a cutoff value 0.9 mm; sensitivity of 72% and specificity of 78.0%). We have some concerns about the design, statistical analysis, and discussion of this study.

First, we do not have enough clinical information about the patients. There are well-known risk scores to evaluate the outcomes of patients with NSTEMI.² For example, the Global Registry of Acute Coronary Events (GRACE) risk score was found as the best in risk stratification in NSTEMI.³ It would be helpful if the authors specify the GRACE and/or Thrombolysis in Myocardial Infarction risk scores⁴ of their patients. Additionally, details of patient treatment strategies would be useful.

Second, the authors defined higher SS group as ≥13. However, in the original paper in which SS was firstly introduced, the patients were divided into 3 subgroups according to their SS: “low SS” when the score was 0 to 22, “intermediate SS” 23 to 32, and “high SS” ≥33.⁵ Recently published European Society of Cardiology guidelines on myocardial revascularization also recommended the use of the abovementioned SS and SS subgroups to assess the severity of CAD.⁶ The stratification of the patients according to an SS value of 13 is not consistent with the current literature. It would be better to elucidate this categorization since this makes it difficult to understand.

Thirdly, there are no data about the consequences of the coronary angiography (surgery and/or percutaneous coronary intervention). There are no data concerning major adverse cardiac events (MACEs) and mortality. The binominal logistic

regression analysis would be more appropriate if it was performed for MACE and/or in-hospital mortality. An ROC analysis also could be performed for these outcomes.

Lastly, the discussion section has contradictory statements. In the fourth paragraph, the authors¹ state that “(1) there are no data about the association of aIMT with CAD presence or severity and (2) aIMT assessment is more difficult than cIMT and it is not preferred as a routine method in CAD because abdominal fat tissue can prevent aIMT measurement.” According to this statement, it would be better to perform cIMT rather than aIMT. In another paragraph, they reported that “there is a close relationship between cIMT, which can be measured non-invasively, and the presence of atherosclerosis. In addition, increased cIMT results in higher risk of myocardial infarction and stroke. Kablak-Ziembicka et al⁷ reported that the risk of CAD was 94% when the cutoff value was taken as 1.15 mm for cIMT.” When we read discussion, it is obvious that cIMT is a better practical tool to check the severity of CAD.

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