

INTERVENTION
LOGISTIC CLINICAL
SYNTAX SCORE

The SYNTAX score is an anatomical-based tool that has quickly become established for long-term risk prediction after percutaneous coronary intervention (PCI). Since publication of the SYNTAX trial, Dr Vasim Farooq, Professor Patrick Serruys, and colleagues have envisaged “the move to combining anatomical and clinical variables to aid the Heart Team in determining the optimal revascularization modality (surgical or percutaneous-based)”. The investigators now report that combining clinical factors (age, creatinine or creatinine clearance, and left ventricular ejection fraction) with the SYNTAX score to produce the ‘Logistic Clinical SYNTAX score’ enhances risk stratification of individual patients by clinical outcomes.

The researchers used patient-level merged data from 6,309 patients, each previously enrolled in one of seven contemporary trials of coronary stents, and created a multivariable logistic regression model. The Logistic Clinical SYNTAX score outperformed the standard SYNTAX score in prediction of 1-year risk of all-cause mortality (area under the receiver operator curve [AUC] 0.753 vs 0.660, respectively). However, no improvement in prediction of 1-year major adverse cardiac events (MACE; all-cause death, myocardial infarction, or all-cause revascularization) was observed (AUC 0.609 vs 0.605, respectively).

The addition of a further six clinical variables (presentation, BMI, peripheral vascular disease, diabetes mellitus, previous myocardial infarction, and smoking) only slightly improved risk prediction of 1-year mortality and MACE (AUC 0.791 and 0.618, respectively). Consequently, the core Logistic Clinical SYNTAX score was adopted and underwent a rigorous cross-validation procedure.

“With the Logistic Clinical SYNTAX score,” says Dr Vasim, “the comparisons of long-term risk predictions following PCI, to short-term risks associated with surgery, will undoubtedly aid the patient, physician, and Heart Team in selecting the most-appropriate revascularization modality.” The investigators now intend to create a single risk score that can be applied to patients undergoing either surgery or PCI: the SYNTAX score II was presented at the TCT conference in October 2012.

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Original article Farooq, V. *et al.* Combined anatomical and clinical factors for the long-term risk stratification of patients undergoing percutaneous coronary intervention: the Logistic Clinical SYNTAX score. *Eur. Heart J.* doi:10.1093/eurheartj/ehs295