A NEW TOOL FOR THE RISK STRATIFICATION OF PATIENTS WITH COMPLEX CORONARY ARTERY DISEASE: THE CLINICAL SYNTAX SCORE

i2 Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: DES II, Restenosis, Left Main and Outcomes
Abstract Category: Outcomes/Operator Volume/Public Reporting/Misc. Topics/Guidelines
Presentation Number: 2502-522

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Background: Percutaneous coronary intervention (PCI) is increasingly used to treat complex coronary artery disease; however, presently no effective risk model exists to predict long-term mortality or other major adverse cardiovascular and cerebrovascular events (MACCE) in these patients. The aim of this study was to assess whether the Clinical SYNTAX Score (CSS) calculated by multiplying the SYNTAX Score to a modified ACEF score (age/ejection fraction +1 for each 10ml the creatinine clearance <60ml/min/1.73m2) would improve the ability of either score to predict mortality and MACCE in patients with complex coronary artery disease who were enrolled in the ARTS-II study.

Methods: The CSS was assessed in terms of MACCE and mortality at 1 and 5 year follow-up in the 239 patients enrolled in the ARTS-II study who had treatment of three vessel disease, and had serum creatinine levels, ejection fraction and body weight recorded at baseline.

Results: The 239 patients (967 treated lesions) were divided according to their CSS into tertiles defined as: CSSLOW≤16.5 (n=80), 16.5<CSSMID≤31.2 (n=79) and CSSHIGH>31.2 (n=80). At 1-year follow-up rates of repeat revascularisation and MACCE were significantly higher in the highest tertile group. At 5-years follow-up CSSHIGH had a significantly higher rate of death, repeat revascularisation and other components of MACCE compared to patients in the lower two tertiles. Log CSS, diabetes, peripheral vascular disease and incomplete revascularisation were all independent predictors of MACCE at 5-year follow-up. The respective C-statistics for the CSS, SYNTAX Score and ACEF score for 5-year mortality were 0.80, 0.70, and 0.73, and for 5-year MACCE were 0.67, 0.64 and 0.59.

Conclusion: An improvement in the ability of the SYNTAX Score to predict MACCE and mortality can be achieved by combining the SYNTAX Score with a simple clinical risk score incorporating age, ejection fraction and creatinine clearance to produce the Clinical SYNTAX Score.