

 MYOCARDIAL ISCHEMIA AND INFARCTION

INCREMENTAL RISK STRATIFICATION IN STABLE PATIENTS UNDERGOING ELECTIVE CARDIAC CATHETERIZATION WITH CARDIAC BIOMARKER SCORE (CBS)

ACC Poster Contributions
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Background: Several cardiac biomarkers have established their prognostic value in patients with acute coronary syndromes, although their relative prognostic significance has not been prospectively validated.

Methods: We measured plasma levels of high-sensitivity C-reactive protein (hsCRP), B-type natriuretic peptide (BNP), and myeloperoxidase (MPO) (Abbott Architect) in 3,569 stable patients undergoing elective cardiac catheterization (troponin negative), and prospectively followed major adverse cardiac events over 3 years (MACE=death/myocardial infarction/stroke). CBS represents sum of “positive” biomarkers.

Results: In our study cohort (age 63±11 years, 66% male, 29% diabetes), median [interquartile range] levels of hsCRP, BNP, and MPO levels were 1.98[0.91,4.48]mg/L, 84[34,201]pg/mL, and 103[70,194]pmol/L, respectively. Based on prior studies, prognostic “positive” cut-off values for hsCRP(≥2mg/L), BNP(≥100pg/mL), and MPO(≥322 pmol/L) were observed in 50%, 45%, and 15% of subjects, respectively. After adjusting for Framingham Risk Score and creatinine clearance, patients with all positive vs all negative biomarkers have a 5.5-fold increased risk of 3-year MACE (95%CI 3.65-8.27, p<0.001, Figure). CBS improves net reclassification indices within primary and secondary prevention subjects alike.

Conclusion: In stable cardiac patients, a CBS provides incremental prognostic value for long-term major adverse cardiac events.

