



MYOCARDIAL ISCHEMIA AND INFARCTION

NEW UNIVERSAL DEFINITION OF MYOCARDIAL INFARCTION FOR RISK STRATIFICATION AND REVASCULARIZATION DECISION MAKING: IS IT ENOUGH?

ACC Oral Contributions

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Session Title: Novel Biomarkers and New Applications of Existing Tools with Practical Implications

Abstract Category: Unstable Ischemic Syndrome/Long-Term Outcome

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Objectives: This study sought to evaluate the prognostic implications and the role for revascularization decision making of the new ESC/ACCF/AHA/WHF universal definition of myocardial infarction (MI) and compare with the multivariable based GRACE Risk Score (RS).

Background: The clinical implications of the universal definition of MI based on the presence of one value above the 99th percentile of the upper reference limit measured with a coefficient of variation $\leq 10\%$ (99th-URL-CV $\leq 10\%$) of specific and highly sensitive serologic tests for the detection of myocardial necrosis are under debate.

Methods: Single centre registry of 389 consecutive patients admitted with non-ST-segment elevation (NSTEMI) ACS. Troponin I (cTnI), CKMB mass (MBm) and activity (MBact) were measured at admission and serially at 6, 12 and 24 hours. For each patient we calculated the HR&95%CI for death/MI at 30-days and 1-year follow-up, adjusted for baseline characteristics and GRACE RS, between the presence or absence of MI using: 1) universal definition: >99th URL for cTnI (>0.06 ng/ml) or MBm (>3.2 ng/ml); 2) MBm >2xURL (>6.4 ng/ml); 3) old WHO: MBact >2xURL (>32U/L). Logistic analysis was performed to test the interaction between tertiles of biomarkers or GRACE RS and the effect of revascularization on the outcome.

Results: The universal definition increased the incidence of MI in 3.5-fold for cTnI, but was not an independent predictor of outcome. The GRACE RS was the only independent predictor of prognosis both at 30-days and 1-year. The interaction with the prognostic impact of revascularization was only present for the GRACE RS categorised by tertiles.

Conclusions: In a contemporary unselected population with NSTEMI-ACS, the new universal definition of MI alone was not adequate for risk assessment and revascularization decision making. These purposes were fully addressed with the GRACE RS.