

Acute Coronary Syndromes

HEMODYNAMIC CARDIAC STRESS INDUCED MYOCARDIAL ISCHEMIA AS DETECTED BY THE RELEASE OF CARDIAC BIOMARKERS: CARDIAC TROPONIN T AND I, CK-MB AND MYOGLOBIN

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: The Blood Tells a Story: Coeptin, Fatty Acid Binding Protein, NT-Pro BNP and More

Abstract Category: 1. Acute Coronary Syndromes: Clinical

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Background: It is unknown whether hemodynamic cardiac stress leads to a differential release of the markers of cardiomyocyte injury commonly used in the diagnosis of acute myocardial infarction

Methods: In an observational international multicenter study, we enrolled 831 unselected acute chest pain patients presenting to emergency department. The final diagnosis was adjudicated by two independent cardiologists. Hemodynamic cardiac stress was quantified by measuring levels of B type natriuretic peptide (BNP). Spearman rho correlation was used to analyze the correlations between BNP and high sensitive cardiac troponin T (hs cTnT), Siemens Ultra cardiac troponin I (cTnI ultra), CK MB and Myoglobin. Patients were categorized using BNP tertiles.

Results: 16% patients had acute myocardial Infarction. There was a significant positive pair wise correlation between BNP and the four markers of cardiomyocyte injury among all patients ($p < 0.001$). However, among patients diagnosed with non cardiac cause of chest pain ($n = 385$), hs cTnT, cTnI ultra and Myoglobin had significant positive correlations with BNP ($p < 0.05$), but CK MB did not. A similar pattern of stronger correlation between BNP and hs cTnT, cTnI ultra and Myoglobin as compared to that with CK MB was also observed within the higher BNP tertile range

Conclusion: Hemodynamic cardiac stress, as quantified by BNP, is a common cause of myocardial injury, which is more closely reflected by hs cTnT, cTnI ultra and Myoglobin than CK MB.

