

60th Annual Scientific Session & Expo

E1119

JACC April 5, 2011

Volume 57, Issue 14



MYOCARDIAL ISCHEMIA AND INFARCTION

CAN B-TYPE NATRIURETIC PEPTIDE IDENTIFY STRESS INDUCED MYOCARDIAL ISCHEMIA IN THE PRESENCE OF SYSTOLIC DYSFUNCTION?

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Stable Ischemic Syndrome: Biomarkers

Abstract Category: 5. Stable Ischemic Syndrome

Session-Poster Board Number: 1141-329

Authors: *Muhammad A. Nadir, Sushma Rekhraj, John Davidson, Chim C. Lang, Allan D. Struthers, University of Dundee, Dundee, United Kingdom***Background:** Studies suggest that BNP may be able to detect myocardial ischemia. However, it is not clear whether BNP is also able to identify myocardial ischemia in the presence of systolic dysfunction.**Methods:** Patients undergoing a clinically indicated dipyridamole myocardial perfusion scintigraphy were prospectively recruited. BNP levels were measured by a point of care BNP assay before the scan. All the scans were reported by trained physicians blinded to the BNP results. Those with impaired renal functions and history of atrial fibrillation or valvular disease were excluded. Patients were divided into four groups based on perfusion defect and stress ejection fraction (EF) on gated SPECT imaging.**Results:** Three hundred and forty five patients (age 64±10 years, 51% male) were studied. Twenty nine (101/345) percent had evidence of a perfusion defect. Overall, BNP levels were significantly higher (median BNP 22.3 vs 52.0 pg/ml, P<0.001) in those with a perfusion defect compared to those without. Similarly, amongst patients who had evidence of systolic dysfunction (EF<55%), BNP levels were significantly higher (median BNP 49.5 vs 121.0 pg/ml, p<0.001) in those with a perfusion defect. The area under curve for BNP to identify those patients who had a perfusion defect and a low stress ejection fraction was 0.81±0.04, p<0.001.**Conclusion:** BNP levels are elevated in patients who have stress induced myocardial ischemia even in the presence of systolic dysfunction.

BNP levels across various groups based on perfusion defect and ejection fraction

Groups	No Perfusion Defect & EF>55% n=212	Perfusion Defect & EF>55% n=60	No Perfusion Defect & EF<55% n=32	Perfusion Defect & EF<55% n=41	P-value for Trend
BNP levels in pg/ml Median (Interquartile Range)	20.85 (10.10-41.25)	36.30 (11.35-66.62)	49.50 (14.92-86.38)	121.00 (55.15- 227.00)	P<0.0001