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Is BNP a Reliable Marker for Left Ventricular Remodeling and Long-term prognosis After Acute Myocardial Infarction?

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Background and Objective : The progression of left ventricular (LV) remodeling after acute myocardial infarction (AMI) has been shown to adversely affect prognosis. We examine the hypothesis that BNP is a reliable marker for left ventricular remodeling and long-term prognosis after acute myocardial infarction. **Method :** From April 2003 to June 2006, among 334 AMI patients, we prospectively analyzed 131 patients underwent echocardiography on 1 to 5th day (initial) and 6 to 9 months (follow-up) and measurements of BNP(Triage®) on admission(≤24hr), early(24hr-6day), and long-term phase(6 to 9 months) after AMI. LV remodeling was defined as an increase in end-diastolic volume (EDV) ≥15% between initial and follow-up period. We checked long-term adverse events (AEs; any cause of death and readmission due to heart failure). Results; Mean age was 59.7±11.6 and male was 71.8%. The median follow-up duration was 35.2 months. The incidence of LV remodeling was 32.3%. Symptom to reperfusion time (6.5±3.1 vs. 4.7±2.2 hours, p=0.000) and BNP at early phase (371.6±458.7 vs 93.6±187.3 pg/dL, p=0.000) were higher in remodeling group. Multivariable regression analyses confirmed that level of BNP at early phase (p=0.003) and peak creatine kinase-MB (p=0.002) were the powerful independent predictors of LV remodeling in patients with AMI. During median 9.5 month follow-up, eighteen (13.5%) AEs occurred: 12 (9.4%) readmission due to heart failure, 6 (4.7%) death. There was higher incidence of LV remodeling, diabetes, anterior myocardial infarction, history of coronary artery disease, older age, lower ejection fraction, longer symptom to treatment time, higher wall motion score index, E/E' and BNP in AEs group ($p<0.05$). Cox regression analyses confirmed that level of BNP at early phase, LVEF and age was the significant predictors of AE ($p<0.05$). **Conclusion :** The level of BNP is well correlate with LV remodeling. Also, BNP was the significant predictors of death and readmission due to heart failure after acute myocardial infarction.

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The low responsiveness of clopidogrel but not aspirin is associated with major adverse cardiac event in unstable angina patients

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Background and Objective : Recent evidences suggested that aspirin or clopidogrel resistance is associated with poor cardiovascular outcomes such as recurrent atherothrombotic events. Therefore, we sought to prospectively evaluate the major adverse cardiac event (MACE) of unstable angina patients and their responsiveness to aspirin and clopidogrel in patients with and without MACE. **Method :** We enrolled consecutive 127 patients (80 males, 65.2±10.3 years) who received percutaneous coronary intervention (PCI) with unstabl angina. MACE was defined by cardiac death, myocardial infarction (MI), target vessel revascularization (TVR), target lesion vessel revascularization (TLR). Aspirin and clopidogrel responsiveness were evaluated by VerifyNowTM tests (Accumetrics Inc, CA). Aspirin resistance was defined as an aspirin reaction units (ARU) ≥ 550. Clopidogrel resistance was defined as the less than 20%.inhibition of P2Y12 receptor. **Results :** Baseline demographic characteristics were similar between MACE and non-MACE group. MACE occurred in 11 patients (8.7 %). 8 patientsts of the MACE had clopidogrel resistance and 43 of the non-MACE. (37.1% vs 72.7%, p=0.027) The ARU values were not different between the MACE and non-MACE group (459.6±88.5 vs. 427.9±62.4, p=0.123). In the MACE, the % inhibition of P2Y12 receptor was lower than non-ST group (17.6±13.5 vs. 31.2±23.8, % p=0.013). **Conclusions :** The lower responsiveness of clopidogrel but not aspirin is associated with MACE in consecutive unstable angina patients underwent PCI.