IMPACT OF NT-PROBNP LEVELS IN PATIENTS WITH ACUTE ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION WHO HAVE NORMAL LEFT VENTRICULAR SYSTOLIC FUNCTION WITHOUT REGIONAL WALL MOTION ABNORMALITY

i2 Poster Contributions
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Background: We investigated the role of N-terminal pro-B-type natriuretic peptide (NT-proBNP) level in patients with acute ST-segment elevation myocardial infarction (STEMI) and normal left ventricular ejection fraction (LVEF) without regional wall motion abnormality (RWMA).

Methods: A total of 1442 consecutive patients (61.6±12.2 years, male 73.4 %) with STEMI who were registered in Korea Acute Myocardial Infarction Registry from Nov. 2005 to Dec. 2007 were enrolled. All of the patients underwent percutaneous coronary intervention which attained Thrombolysis in Myocardial Infarction flow grade 3. We excluded patients with LVEF < 56% and RWMA, previous ischemic heart disease, and decreased renal function. The patients were divided into two groups according to baseline NT-proBNP level (group I: NT-proBNP ≥ 550 pg/mL, n=441; group II: NT-proBNP < 550 pg/mL, n=1001).

Results: Patients with NT-proBNP ≥ 550 pg/mL were older and had higher Killip class and more complex lesions. The prevalences of hypertension and diabetes were higher in patients with NT-proBNP ≥ 550 pg/mL. The levels of troponin I and high-sensitivity C-reactive protein were significantly higher in patients with NT-proBNP ≥ 550 pg/mL than those with NT-proBNP < 550 pg/mL. Rates of in-hospital adverse events (IHAEs) and major adverse cardiac events (MACEs) at 1 and 6 months were significantly higher in patients with NT-proBNP ≥ 550 pg/mL compared with those with NT-proBNP < 550 pg/mL (IHAEs: 9.3% vs 5.0%, p=0.002; 1-month MACEs: 2.7% vs 1.0%, p=0.013; 6-month MACEs: 10.1% vs 6.3%, p=0.013). There was no difference in the incidence of 12-month MACEs between the groups. In multivariate analyses, the level of NT-proBNP was an independent predictor of IHAEs (OR, 2.82, 95% CI 1.02-7.75, p=0.045) and 1- and 6-month MACEs (OR, 1.64, 95% CI 1.01-2.67, p=0.049; OR, 1.95, 95% CI 1.27-3.01, p=0.002, respectively).

Conclusions: Although, patients with STEMI and normal LVEF without RWMA had benign clinical outcome relatively, patients with elevated level of NT-proBNP had relatively higher IHAEs and MACEs. The level of NT-proBNP was an independent prognostic factor in patients with STEMI who had normal LVEF without RWMA.