



Acute Coronary Syndromes

THE INCIDENCE, CLINICAL PREDICTORS AND PROGNOSTIC VALUE OF REVERSE LEFT VENTRICULAR REMODELING IN PATIENTS WITH STEMI UNDERGOING PRIMARY PCI

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Percutaneous Coronary Intervention for AMI: Predictors of Outcome

Abstract Category: 1. Acute Coronary Syndromes: Clinical

Presentation Number: 1216-212

Authors: *Kwang Soo Cha, Jeong Cheon Choi, Jong Hyun Choi, Jin Hee Ahn, Hye Won Lee, Jun-Hyok Oh, Jung Hyun Choi, Han Cheol Lee, Taek Jong Hong, Myung Ho Jeong, Pusan National University Hospital, Busan, South Korea*

Background: Left ventricular remodeling (LVR) is a relatively common (about 30%) and unfavorable event occurring after acute myocardial infarction (MI). The opposite phenomenon, LV volume reduction after coronary reperfusion, known as reverse LVR (r-LVR), was introduced in patients with chronic heart failure undergoing cardiac resynchronization therapy and was reported as a predictor of favorable outcome. However, few data are available on r-LVR after ST-segment elevation MI (STEMI) with use of primary percutaneous coronary intervention (PPCI) and 'anti-remodeling' medications. We aimed to determine the incidence, clinical predictors, and prognostic value of r-LVR in large numbers of STEMI patients.

Methods: We included 1,244 STEMI patients from the Korea Working Group on Myocardial Infarction, who had LV end-systolic volume (LVESV) at baseline and follow-up echocardiography after PPCI. The r-LVR was defined as a reduction >10% in LVESV at the follow-up.

Results: r-LVR occurred in 466 (37.5%) patients. By multivariable analysis, door-to-balloon (DTB) time (OR 0.98, 95% CI 0.997-1.000, $p=0.028$), direct arrival to PPCI-capable hospital (OR 1.36, 95% CI 1.005-1.832, $p=0.047$), maximum troponin I (OR 1.04, 95% CI 1.002-1.006, $p=0.001$), initial LV ejection fraction (EF) (OR 0.98, 95% CI 0.965-0.998, $p=0.028$), initial LVESV (OR 0.97, 95% CI 0.964-0.979, $p<0.001$), and extent of coronary artery disease (OR 0.82, 95% CI 0.680-0.990, $p=0.039$) were the independent predictors of r-LVR after adjusting relevant clinical, echocardiographic, and angiographic variables. Cumulative major adverse clinical events (MACE), defined as death, MI, or revascularization, at two years were not different between r-LVR group and no r-LVR group (13.6% vs. 13.4%, $p=0.932$).

Conclusions: This study showed that r-LVR frequently occurred in patients with STEMI who underwent PPCI and independent predictors of r-LVR were DTB time, direct arrival to PPCI-capable hospital, maximum troponin, initial LVEF, initial LVESV, and extent of coronary artery disease. However, the prognostic role of r-LVR on MACE was not definite at two years.