Twelve-month Clinical Outcomes of Acute NSTEMI vs STEMI Pts with Reduced TIMI flow undergoing PCI

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Objective: The aim of the present study was to compare clinical influence of reduced pre-procedural Thrombolysis in Myocardial Infarction (TIMI) flows between patients with ST-segment elevation myocardial infarction (STEMI) and non-ST segment elevation myocardial infarction (NSTEMI) undergoing percutaneous coronary intervention (PCI). **Backgrounds:** Reduced pre-procedural TIMI flow in patients with STEMI is known to be associated with increased mortality. However, clinical implications of reduced pre-procedural TIMI flow in patients with NSTEMI have not been fully elucidated yet. **Methods:** From Korea Acute Myocardial Infarction Registry (KAMIR), a total of 7,336 AMI patients with angiographically confirmed reduced pre-procedural TIMI flow (TIMI 0/1) during PCI were selected. These patients were divided into STEMI (n=4,852) and NSTEMI (n=2,484) groups. The 12-month composite of total death, non-fetal MI, coronary artery bypass graft (CABG), and repeat PCI were compared between the two groups. **Results:** After adjustment of baseline confounders by propensity score stratification, the NSTEMI group had lower incidence of total major adverse cardiac events than the STEMI group (major adverse cardiac events, MACE: 11.19 % vs. 7.15 %; HR: 0.63; 95% CI: 0.47 to 0.84; $p=0.001$) at 12 months, which was largely attributable to lower incidence of total deaths (2.43 vs. 3.99 %; HR: 0.60; 95 % CI: 0.37 to 0.98; $p=0.04$) and repeat PCI (3.81 vs. 6.41%; HR: 0.59, 95 % CI: 0.40 to 0.88; $p=0.01$). However, there was no significant difference in the incidence of non-fatal MI or CABG between the two groups during the 12-month follow-up. **Conclusion:** In AMI patients with reduced pre-procedural TIMI flow (TIMI 0/1), patients with NSTEMI had better outcome compared to that of patients with STEMI based on incidence of 12-month MACE. This could be attributable to lower total death and repeat revascularization in patients with NSTEMI.

Simple cluster of cardiovascular risk factors in patients with acute myocardial infarction

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Background: Conventional risk factors are differently contributed to short-term prognosis of acute myocardial infarction (AMI); hypertension and diabetes increase adverse outcome, whereas hyperlipidemia, smoking, and obesity are paradoxically decrease adverse outcome of post-MI patients. The aim of this study is to assess whether simple cluster of conventional risk factors, PARADOCS (Pressure of ARtery Abnormality, Diabetes, Obesity, Cholesterol, Smoking) score, would improve the ability to predict major adverse cardiac events (MACEs) in patients with AMI. **Methods:** Between November 2011 and December 2015, 13,104 patients (9,686 men; mean age=64.0±12.6 year-old) with a diagnosis of AMI were analyzed in this study from KAMIR–NIH database. PARADOCS score was calculated on the basis of number of five modifiable risk factors; [number of non-paradoxical risk factors (NRF) – number of paradoxical risk factors (PRF)] + 3 in which non-paradoxical risk factors are hypertension and diabetes, and paradoxical risk factors are hyperlipidemia, smoking, and obesity. The 1-year MACEs were defined as death, non-fatal MI, repeat revascularization, cerebrovascular accident, and rehospitalizations. **Results:** During the follow-up, 1,422 (10.9%) MACEs occurred. PARADOCS score was significantly higher in patients with 1-year MACEs (3.43±1.03 versus 2.88±1.11, $p<0.001$). In Cox proportional hazards model, PARADOCS score was an independent predictor of 1-year MACEs (hazards ratio [HR] 1.16, 95% confidence interval [CI] 1.09–1.23; $p<0.001$) after adjusting for confounding variables. Patients were categorized into 3 groups according to the PARADOCS score; PARADOCSLOW (0-1, n=1,226), PARADOCSMID (2-3, n=7,405), and PARADOCSHIGH (4-5, n=4,033). Kaplan-Meier survival curve showed that there were significant differences in the 1-year MACEs among three groups including 2.9% in PARADOCSLOW, 8.2% in PARADOCSMID, and 15.6% in PARADOCSHIGH, respectively (long-rank $p<0.001$). Adjusted HRs for 1-year MACEs were 1 (PARADOCSLOW, reference), 1.62 (PARADOCSMID, $p=0.008$), and 2.02 (PARADOCSHIGH, $p<0.001$), respectively. **Conclusions:** In post-MI patients, simple cluster score of risk factors, PARADOCS score, could provide useful prognostic information.