METHODS We prospectively enrolled STEMI patients undergoing primary PCI, whom were treated with clopidogrel (600 mg loading and 75 mg QD maintenance; n = 105) or ticagrelor (180 mg loading and 90 mg bid maintenance; n = 64) on top of aspirin. We serially measured platelet reactivity (using VerifyNow assay: pre-PCI, post-PCI, and 1-month follow-up), hs-CRP (pre-PCI, post-PCI, and 1-month follow-up), fibrinogen (pre-PCI and 1-month follow-up), vascular function (using brachial-ankle pulse wave velocity [baPWV]; post-PCI and 1-month follow-up) and LV remodeling index (using transthoracic echocardiography: post-PCI and 1-month follow-up).

RESULTS Baseline demographics and laboratory measurements were well balanced between the treatments. Compared with clopidogrel treatment, ticagrelor treatment showed the lower levels of platelet reactivity from pre-PCI to 1-month follow-up, ticagrelor treatment sufficiently inhibited ADP-induced platelet reactivity (mostly less than 100 PRU). However, there were no differences in terms with hs-CRP level, baPWV and LV remodeling index between the treatments. Interestingly, ticagrelor versus clopidogrel reduced thrombin-mediated platelet reactivity (224 ± 33 vs. 240 ± 46 BASE; p = 0.030) and enhanced fibrinogen level (400 ± 104 vs. 360 ± 100 mg/dL; p = 0.027).

CONCLUSIONS After the short-term treatment with ticagrelor versus clopidogrel, its strong inhibition of platelet activation is not associated with inflammation, vascular function and LV remodeling process in STEMI patients. Beneficial role of ticagrelor needs to be evaluated in randomized clinical trials after long-term treatment.

CATEGORIES CORONARY: Acute Myocardial Infarction

KEYWORDS Inflammation, left ventricular function, recovery, Platelet reactivity, Ticagrelor

TCT-274

Clinical Impacts Of Inhibition Of Renin-Angiotensin System In Patients With Acute Myocardial Infarction Who Underwent Successful Late Percutaneous Coronary Intervention

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BACKGROUND Successful percutaneous coronary intervention (PCI) of the occluded infarct-related artery (IRA) in latecomers may improve long-term survival mainly by reducing left ventricular remodeling. It is not clear whether inhibition of renin-angiotensin system (RAS) brings additional better clinical outcomes in this specific population subset.

METHODS Between January 2008 and June 2013, 669 latecomer patients with acute myocardial infarction (MI) (66.2 ± 12.1 years old, 71.0% males) in Korea Acute Myocardial Infarction Registry (KAMIR) who underwent a successful PCI were enrolled. The study population underwent a successful PCI for a totally occluded IRA. They were divided into two groups according to whether they were prescribed RAS inhibitors at the time of discharge or not: group I (RAS inhibition, n=556), and group II (No RAS inhibition, n=113).

RESULTS During the one-year follow-up, major adverse cardiac events (MACE), which consist of cardiac death and MI, occurred in 71 patients (10.6%). There were significantly reduced incidences of MACE in the group I [hazard ratio (HR) = 0.34, 95% CI (confidence interval) 0.199 - 0.588, p = 0.001]. In subgroup analyses, RAS inhibition was beneficial in patients with male gender, history of hypertension or diabetes mellitus, and even in patients with left ventricular ejection fraction (LVEF) ≥40%. In the baseline and follow-up echocardiographic data, benefit in changes of LVEF and left ventricular end-systolic volume was noted in the group I.

Table: Differences in echocardiographic data between baseline and follow-up echocardiographic data.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Change from baseline (days)</th>
<th>Group I (n=556)</th>
<th>Group II (n=113)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVEF (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre PCI</td>
<td>95.6 ± 19.9</td>
<td>51.6 ± 19.9</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Pre PCI</td>
<td>51.6 ± 19.9</td>
<td>51.6 ± 19.9</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSIONS In latecomers with acute MI, RAS inhibition improved long-term clinical outcomes after a successful PCI, even in patients with low risk who had relatively preserved LVEF.

CATEGORIES CORONARY: Acute Myocardial Infarction

KEYWORDS Angiotensin converting enzyme inhibitor, Angiotensin Receptor Blocker, Myocardial infarction

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