**TCT-249**

**Hypoxic Liver Injury at Admission as a Predictor of In-hospital Death in Patients with ST-Elevation Myocardial Infarction (STEMI) Underwent Primary Percutaneous Coronary Intervention (PCI): Data from INTERSTELLAR Cohort**

Hyun Woo Park,1 Ho-Jun Jang,2 Tae-Hoon Kim,2 Jon Suh,3 Sang-Don Park,1 Woong Chol Kang,3 Jeonggeun Moon,3 Hyung Chun Oh,4 Hyung Oh Choi,4 Yoon Haeng Cho,5 Sung Woo Kwon4 Soon Chun Hyang University Bucheon Hospital, Bucheon, Korea, Republic of; 6 Soon Chun Hyang University Bucheon Hospital, Bucheon, Korea, Republic of; 7 Soon Chun Hyang University Bucheon Hospital, Bucheon, Korea, Republic of; 8 Soon Chun Hyang University Bucheon Hospital, Bucheon, Korea, Republic of.

**BACKGROUND** Recently, hypoxic liver injury (HLI) has been proposed as a novel prognostic marker for ST-elevation myocardial infarction (STEMI) in small study. So, we evaluated the prognostic implication of HLI at admission in patients with STEMI who underwent primary percutaneous coronary intervention (PCI) in large cohort.

**METHODS** From 2007 to 2014, a total of 1540 consecutive patients (1221 males, mean age 61.1 ± 13 years old) with STEMI underwent primary PCI were analyzed retrospectively. HLI was defined as ≥ 2-fold increase of serum alanine aminotransferase (ALT) above upper normal limit of the time of presentation. Primary endpoint was in-hospital death.

**RESULTS** Of all patients, the HLI was noted in 7.7% patients. Compared to patients without HLI, the patients with HLI were younger (58 ± 14 vs. 61.1 ± 13 years, p < 0.043), had higher ALT (65.1 ± 69.3 vs. 36.3 ± 40 IU/L, p < 0.001) at the time of presentation and had lower left ventricular ejection fraction (49 ± 12 vs. 57 ± 19, p < 0.001). The HLI at the presentation was associated with high in-hospital death (21% vs. 4.5%, p < 0.001) and was an independent predictor of in-hospital death (HR 5.69, CI 3.12-10.38, p < 0.001) after adjusted by age, diabetes, sex and shock.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Age</td>
<td>1.06</td>
<td>1.04-1.08</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2.45</td>
<td>1.59-3.77</td>
</tr>
<tr>
<td>Shock</td>
<td>10.68</td>
<td>6.61-17.26</td>
</tr>
<tr>
<td>HLI</td>
<td>5.64</td>
<td>3.40-9.37</td>
</tr>
<tr>
<td>Male</td>
<td>1.94</td>
<td>1.22-3.07</td>
</tr>
</tbody>
</table>

**CONCLUSIONS** The HLI is an independent predictor of in-hospital death in patients with STEMI underwent primary PCI.

---

**CATEGORIES CORONARY:** Acute Myocardial Infarction  
**KEYWORDS** Liver failure, ST-segment elevation myocardial infarction

---

**TCT-250**

**Prognostic Impact of Combined Contrast-Induced Acute Kidney Injury (CI-AKI) and Hypoxic Liver Injury (HLI) in Patients with ST Elevation Myocardial Infarction (STEMI) Who Underwent Primary Percutaneous Coronary Intervention (PCI): Results from the INTERSTELLAR Registry**

Sung Woo Kwon,1 Sang-Don Park,1 Tae-Hoon Kim,1 Ho-Jun Jang,2 Hyun Woo Park,1 Jon Suh,1 Sung-Hee Shin,1 Sung-il Woo,1 Dae-Hyeok Kim,1 Jun Kwan,1 Hyung Chun Oh,4 Jeonggeun Moon,4 Woong Chol Kang8

**BACKGROUND** We sought to evaluate the prognostic impact of contrast-induced acute kidney injury (CI-AKI) and hypoxic liver injury (HLI) in patients with ST-elevation myocardial infarction (STEMI) who underwent primary percutaneous coronary intervention (PCI).

**METHODS** From 2007 to 2014, a total of 667 consecutive patients (77.2% male, mean age 61.3 ± 13.3 years) with STEMI underwent primary PCI were analyzed. CI-AKI was defined as an increase in serum creatinine of ≥ 0.5 mg/dl or a 25% relative rise, within 48h after index procedure. HLI was defined as ≥2-fold increase of serum aminotransferase above upper normal limit at admission. Patients were divided into four groups according to their CI-AKI and HLI states (group 1: no CI-AKI and no HLI, group 2: only HLI, group 3: only CI-AKI, group 4: both CI-AKI and HLI). The primary endpoint was major adverse cardiac events (MACE) during follow-period, defined as all-cause mortality or non-fatal MI.

**RESULTS** Of the 667 patients, 465 patients (69.7%) were allocated in group 1; 129 patients (19.3%) in group 2; 47 patients (7.0%) in group 3 and 26 patients (3.9%) in group 4. Over a mean follow-up period of 2.2 ± 1.6 years, there were 65 MACEs (42 all-cause mortality and 23 non-fatal MI) with an event rate of 9.7%. The rate of MACE and all-cause mortality were 5.2% and 3.4% in group 1, 14.0% and 10.1% in group 2, 21.3% and 6.4% in group 3, and 50.0% and 38.5% in group 4, respectively. Consequently, Kaplan-Meier survival analysis for MACE and all-cause mortality revealed that group 4 was associated with worst clinical outcomes (log rank p-value < 0.0001).

**CONCLUSIONS** Combined CI-AKI after index procedure and HLI at admission is associated with poor clinical outcomes in patients with STEMI underwent primary PCI.

---

**CATEGORIES CORONARY:** Acute Myocardial Infarction  
**KEYWORDS** Contrast-induced acute kidney injury, MACE, STEMI

---

**Figure:**

A graph showing the rate of in-hospital death (%) with 21% P < 0.001.