

Hypoxic Liver Injury as a Predictor of Inhospital Death in Patient with STEMI

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Background: Recently, hypoxic liver injury (HLI) has been proposed as a novel prognostic marker for ST-elevation myocardial infarction (STEMI) in small studies. We evaluated the prognostic implication of HLI 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 ± 13 years old) with STEMI underwent primary PCI were analyzed retrospectively. HLI was defined as ≥ 2 -fold increase of serum alanine transaminase (ALT) above upper normal limit. Primary endpoint was in-hospital death. **Results:** Of all patients, the HLI was noted in 7.7%. Compared to patients without HLI, the patients with HLI were younger (58 ± 14 vs. 61 ± 13 years, $p = 0.043$), had lower ejection fraction (43 ± 15 vs. $48 \pm 17\%$, $p = 0.002$). A total of 89 in-hospital death (5.8%) were occurred. Compared to patients without in-hospital death, those patients were older (69 ± 11 vs. 60 ± 13 years old, $p < 0.001$), had higher ALT (65 ± 69 vs. 36 ± 40 IU/L, $p < 0.001$) at the time of presentation and had lower left ventricular ejection fraction (49 ± 12 vs. 27 ± 19 , $p < 0.001$). The proximal LAD or LM lesion was not associated with hypoxic liver injury ($p = 0.835$), but proximal RCA lesion was associated with hypoxic liver injury ($p = 0.002$). The proximal RCA lesion was not associated with in-hospital death ($p = 0.910$), but the HLI at the presentation was associated with high in-hospital death ($p < 0.001$) 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. **Conclusions:** The HLI is an independent predictor of in-hospital death in patients with STEMI underwent primary PCI.

Gender-related association between arterial stiffness and aortic root geometry

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Background/Aims: The gender-related impact of arterial stiffness on the geometry of aortic root has not been well studied. This study was performed to investigate the association between brachial-ankle PWV (baPWV) and the size of aortic root according to gender. **Methods:** A total of 263 consecutive healthy subjects (63.2 ± 10.6 years, 71.1% men) who underwent both baPWV measurement and transthoracic echocardiography at the same day was retrospectively analyzed. Diameters of aortic annulus (AN), sinus of Valsalva (SV), sinotubular junction (STJ) and ascending aorta (AA) were measured using 2-dimensional echocardiography. **Results:** Women were older (68.5 ± 8.6 years versus 61.1 ± 10.7 years, $p < 0.001$) and had higher baPWV ($1,717 \pm 309$ cm/s versus $1,533 \pm 311$ cm/s, $p < 0.001$) than men. Body surface area (BSA) corrected diameters of AN, SV, STJ and AA were significantly higher in women than men ($p < 0.05$ for each). Univariate analysis showed that diameters of SV/BSA and STJ/BSA were significantly correlated with baPWV in men, and SV/BSA, STJ/BSA and AA/BSA in women ($p < 0.05$ for each). In men, however, these associations disappeared in multiple linear regression models after controlling for potential confounders including age, systolic blood pressure, HbA1c, total cholesterol, high-density lipoprotein cholesterol, renal function, the use of beta-blockers, renin-angiotensin aldosterone system blockers, statin and calcium channel blockers ($p > 0.05$ for each). In women, diameters of STJ/BSA and AA/BSA remained significant having independent association with baPWV in the same multivariable models ($p < 0.05$ for each). **Conclusions:** Among healthy Korean elderly, the association between increased arterial stiffness and aortic root dilatation is stronger in women than in men. These findings emphasize the role of sex hormone in the interaction between arterial stiffness and aortic morphology.