中文題目: 急性心肌梗塞的患者有較高的血清 syndecan-1 濃度

英文題目: Elevated Serum Syndecan-1 levels in Patients with Acute Myocardial Infarction

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BACKGROUND: Syndecan-1 is a member of conserved family of 4 heparan and chondroitin sulfate-carrying transmembrane protein. Syndecan-1 is emerging as a central regulator of inflammation and matrix remodeling during wound healing, infection, and tumor formation. Previous animal study demonstrated the elevated expression of syndecan-1 after MI, and increased expression of syndecan-1 in the infarct protects against exaggerated inflammation and adverse infarct healings, thereby reducing cardiac dilatation and dysfunction. However, the clinical study is currently lacking. Our study was designed to investigate a possible relationship between serum syndecan-1 and acute myocardial infarction (AMI).

METHODS: This cross-sectional study enrolled 70 patients who was admitted for AMI (STEMI in 27 patients, NSTEMI in 43 patients), and 30 patients with chronic coronary artery disease (CAD, >50% stenosis in at least one coronary artery in previous coronary angiography). Blood samples were collected within 48 hours in AMI group patients. Demographic information, including height, weight, cardiovascular risk factors, comorbid conditions, and list of current medications, was obtained from the medical records of the patients. M-mode and two-dimensional echocardiography were performed in all of the participants. The laboratory examinations included renal function tests, as well as tests for fasting glucose, lipid profile, CPK, and Troponin-I.　Serum syndean-1 concentration was measured by an enzyme-linked immunosorbent assay.

RESULTS: Serum syndecan-1 levels were significant higher in patients with acute myocardial infarction than in those with chronic CAD (118 vs. 41 ng/ml; $p < 0.001$). The difference between syndecan-1 levels in STEMI and NSTEMI patients was statistically insignificant (127 vs. 113 ng/ml; $p = 0.46$). The syndecan-1 levels were also associated with the severity of MI (Killip I vs. Killip II-IV : 114 vs 153 ng/ml; $p = 0.04$). In multivariable logistic regression models, syndecan-1 was independently associated with AMI following adjustment of age, gender, and established risk factors (odds ratio 1.03, 95% confidence interval 1.01 – 1.04; $p = 0.003$).

CONCLUSIONS: Serum syndean-1 concentration might be a new candidate biomarker for risk stratification in patients with acute myocardial infarction.