Prognostic Value of High-Sensitivity C-reactive Protein in Patients with Chronic Heart Failure

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Abstract
Objectives: To determine whether High-Sensitivity C-reactive Protein (hsCRP) has Prognostic value in patients with chronic heart failure. Methods: Serum hsCRP levels were measured with high-sensitivity assay (IMMAGE Immunochemistry Systems) in 128 patients with CHF and 25 healthy control subjects. Cardiac troponin T (TNT) was measured by Electrochemiluminescence immunoassay on Elecsys1010 automatic analyzer. Cardiac events were defined as cardiac death and rehospitalization because of worsening heart failure during a mean follow up period of 378±6 days. Results: Circulating levels of hsCRP and TNT were significantly higher (3.85±0.25 mg/L, 0.21±0.15 mg/L, respectively) in patients with CHF than in 25 healthy people (p<0.01, p<0.01, respectively) and increased with severity of CHF. During a mean follow up period of 378±26 days, forty-two (32.8%) of the 128 patients had cardiac events. Levels of hsCRP and TNT were significantly higher (p<0.001, p<0.001, respectively) and left ventricular ejection fraction (LVEF) was significantly lower (p<0.01) in patients with cardiac events than in patients without cardiac events. When multivariate Cox proportional hazards analysis was performed, we could find that hsCRP, TNT, and LVEF were independent significant predictors of cardiac events in patients with CHF. (hsCRP: hazard ratio[HR], 3.81; 95%CI, 2.14-9.35; P=0.024; TNT: HR, 2.61; 95%CI, 1.96-4.31; P=0.012; LVEF: HR, 3.52; 95%CI, 2.36-10.37; P=0.024). A positive correlation was observed between hsCRP and TNT (r=0.493, p<0.01). A negative correlation was observed between hsCRP and LVEF (r=-0.354, p<0.01). Conclusion: Serum hsCRP concentrations were elevated in patients with CHF and increased with severity of CHF. It was an independent significant predictor of cardiac events in patients with CHF. (J HK Coll Cardiol 2004;12:64-69)

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