

Procalcitonin and High sensitive C-reactive protein Compared to Troponin I Levels as Prognostic tools in Non ST Elevation Acute Coronary Syndromes.

Abstract

Introduction: Coronary artery disease is one of the leading causes of morbidity and mortality worldwide. Recent advances in basic sciences have established a fundamental role of inflammation in mediating all stages of atherosclerosis. High sensitive C-reactive protein (hsCRP) and Procalcitonin (PCT) are important inflammatory markers. In our study we evaluated the prognostic significance of admission levels of PCT and hsCRP in ACS patients in comparison to the standard troponin I level.

Methods: Group I ;30 NSTEMI-ACS patients compared to Group II; 30 patients with normal coronary angiography as controls .All patients had hsCRP, Procalcitonin and Troponin I serum levels measured on admission. All cases and controls were followed up for major adverse cardiac event (non fatal myocardial infarction (MI), target vessel revascularization (TVR), or cardiac death) for 6 months. **Results:** Group I patients matched Group II as regards age and sex (mean age 54.07 ± 9.3 vs. 50.13 ± 8.6 years, $p=0.09$ and 67% vs 57% males, $p=0.4$). Hs-CRP levels were significantly higher in group I compared to group II (1.02 ± 0.36 mg/dl vs. 0.8 ± 0.34 mg/dl, $p = 0.019$). PCT in group I was insignificantly higher than group II (0.32 ± 0.16 ng/ml vs. 0.28 ± 0.08 ng/ml, $p= 0.2$). Troponin I level was significantly higher in group I (1.23 ± 1.06 ug/l vs. 0.19 ± 0.001 ug/l, $p<0.0001$). Myocardial infarction and target vessel revascularization were higher in group I vs. group II (40% vs.0%, $p<0.001$ and 10% vs.0%, $p=0.1$) respectively. High troponin I levels predicted MACE in NSTEMI-ACS (ROC analysis cut-off point of 0.2 ug/l, AUC 81.1%). Admission hsCRP, PCT levels could not predict 6 months MACE (ROC analysis cut-off point of 0.5mg/dl, AUC 63.1% vs. 0.05 ng/ml with AUC 56.9%). **Conclusions:** Admission troponin I level is a strong prognostic tool for MACE in NSTEMI-ACS in contrast to hsCRP and PCT levels.

Key Words:

C-Reactive protein – Troponin I – Procalcitonin -- Acute Coronary Syndromes – major adverse cardiac events .