

1545512

Plasma Erythropoietin Levels and long Term Outcome in Patients with Acute Coronary Syndromes

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Background: Elevated Erythropoietin (EPO) has been related to adverse prognosis in patients with heart failure. Recent trials also suggested EPO may add prognostic information in patients with IHD. We tested the association between endogenous EPO level with the extent of coronary disease, myocardial damage as well as long term outcome, in patients with ACS.

Methods: between September 2004 and December 2005 we collected the sera of 256 patients admitted to the hospital due to ACS who underwent cardiac catheterization. We tested the levels for EPO and hsCRP in patients sera . The extent of myocardial damage was assessed from Troponin and CPK levels. We also prospectively evaluated major cardiac events in this population 24 months post admission.

Results: We observed a direct association between EPO levels and hsCRP. A significant correlation was found between EPO levels and tertiles of CPK ($p=0.018$). EPO levels at baseline were related to an increased mortality in the subsequent follow up period ($p=0.005$). There was no significant relation with respect to overall major adverse cardiac events (MACE). Logistic regression analysis demonstrated that higher EPO levels were independently associated with an increased risk of mortality.

Conclusions: Elevated erythropoietin level was associated with increased myocardial damage and mortality in patients admitted with ACS .Moreover the prognostic information of EPO relating to mortality was additive to that of hsCRP

Shortcuts:

EPO- Erythropoetin

hsCRP- High Sensitive CRP

IHD- Ischemic Heart Disease

ACS- Acute Coronary Syndrome