

Acute Myocardial Infraction Overdiagnosis According to Positive Troponin Test in Hospitalized Patients

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Background: Although troponin is considered as specific marker for the diagnosis of acute coronary syndrome (ACS), recent studies showed elevation of troponin in a variety of non-ischemic conditions. Our aim was to determine the accuracy of troponin for the diagnosis of ACS in hospitalized patients

Methods: We analyzed all patients admitted to our hospital and for whom troponinT levels were tested. The study group was divided into four subgroups: ACS with and without troponin elevation and non-ACS with and without troponin elevation. The accuracy of troponin test was evaluated according to demographic and clinical data. A multivariate logistic regression analysis was performed to define clinical variables that predict the diagnosis of ACS. Different cut-off values of troponin according to the clinical status were tested using roc-curve analysis.

Results: During the study period 898 patients had troponinT test. 597 had elevated troponin of whom 306(51.2%) had a main diagnosis of ACS. 301 patients had negative troponin of whom 28(9%) had ACS. The sensitivity of troponin was 91.6% while the specificity was only 48.4%. Positive predictors for diagnosis of ACS were smoking, hyperlipidemia, normal renal function and troponin levels >1ng/ml. History of CVA was strong negative predictor for ACS diagnosis. Cut-off value of 1ng/ml was found to be more accurate than 0.1ng/ml in old patients with renal failure.

Conclusions: the specificity of troponin test in general hospitalized patients was found to be considerably low causing over-diagnosis of MI. Hence the diagnosis of MI still mostly should be based on the clinical presentation and not solely on the troponin test. We identified clinical predictors that combined with different cut-offs may increase the diagnostic accuracy of troponin and can guide the appropriate treatment.