NEOPTERIN PREDICTS LEFT VENTRICULAR REMODELING IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

ACC Poster Contributions
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Background: Left ventricle (LV) remodeling is a relatively common and unfavourable event occurring after acute myocardial infarction. A link exists between inflammation and LV remodeling. Neopterin, a marker of inflammation and macrophage activation, is a predictor of LV dysfunction in patients with coronary artery disease. The aim of the study was to assess the association between neopterin and LV remodeling in patients with ST-segment elevation myocardial infarction (STEMI).

Methods: We prospectively assessed 108 STEMI-patients (age 67±12 years; 65% male) treated with primary percutaneous coronary intervention (PPCI) who underwent echocardiographic examination at baseline (96 ± 10 hours) and 12 months after STEMI. LV remodeling was defined as a >20% increase from baseline in LV end-diastolic volume at 12 months. Neopterin serum concentrations were measured immediately before PPCI.

Results: At one year follow up, LV remodeling was identified in 21 patients whilst 87 had no LV remodeling. Patients with LV remodeling had higher levels of neopterin at study entry (7.44 ± 1.04 vs 5.18 ± 1.39 nmol/L). Binary logistic regression analysis showed that acute myocardial infarction (OR 3.34, CI 95% 1.34-6.45, p = 0.01) and neopterin levels (OR 4.65, CI 95% 1.67-16.8, p =0.03) were independent predictors of LV remodeling. Receiver operating characteristic analysis showed an area under the curve of 0.90 for neopterin (CI 95% 0.84 - 0.96, p <0.0001) regarding LV remodeling.

Conclusions: High neopterin levels - a marker of increased inflammatory activity- predict LV remodeling in STEMI-patients.