EOSINOPHIL CATIONIC PROTEIN: A NEW BIOMARKER OF CORONARY ATHEROSCLEROSIS.

ACC Poster Contributions
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Background: Coronary atherosclerosis is a chronic inflammatory disease. We assessed the relation of eosinophil cationic protein (ECP), a sensitive marker of eosinophil activation, and C-reactive protein (CRP) with coronary artery disease (CAD).

Methods: Consecutive anginal patients with angiographic evidence of CAD (stable angina (SA) or non-ST-elevation acute coronary syndrome (NSTE-ACS)), or with angiographically normal coronary arteries (NCA) were enrolled. The severity of CAD was graded according to Bogaty’s score and coronary lesion morphology was defined as smooth or complex. Baseline ECP and high sensitivity CRP were measured in all patients.

Results: Of 198 patients (64±10 yrs, male 74%), 91 had SA, 57 had NSTE-ACS and 50 had NCA. ECP levels were significantly higher in SA [30 μg/L (13.8-46.9), p<0.001] and NSTE-ACS [21.8 μg/L (5.5-46.3), p=0.016] compared to NCA [9.7 μg/L (6.1-13.6)], without significant difference between SA and NSTE-ACS (p=0.45). CRP levels were significantly higher in NSTE-ACS [2.38 mg/L (1.11-11.94)] compared to SA [1.48 mg/L (0.82-2.83), p=0.03], and NCA [1.09 mg/L (0.8-2.1), p<0.001], without significant difference between SA and NCA (p=0.20). The addition of ECP to main cardiovascular risk factors improved the area under the curve from 0.88 to 0.92, p=0.007 for the angiographic diagnosis of CAD; further addition of CRP increased the area to 0.94, p=0.014. At multiple linear regression analysis ECP levels independently predicted CAD severity (p=0.001), whereas CRP levels independently predicted lesion complexity (p=0.01).

Conclusion: Our study shows that ECP is a marker of CAD and that different inflammatory biomarkers reflect different phases of atherosclerotic plaque evolution.