ACC.11
60th Annual Scientific Session & Expo

E1149
JACC April 5, 2011
Volume 57, Issue 14

MYOCARDIAL ISCHEMIA AND INFARCTION

PLASMA YKL-40 IN RELATION TO THE DEGREE OF CORONARY ARTERY DISEASE IN PATIENTS WITH STABLE ISCHEMIC HEART DISEASE

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Monday, April 04, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Stable Ischemic Syndrome: Thrombosis and other Markers
Abstract Category: 5. Stable Ischemic Syndrome
Session-Poster Board Number: 1181-322

Authors: *Anders B. Mathiasen, Marina J. Harutyunyan, Erik Jørgensen, Steffen Helqvist, Rasmus Ripa, Jens P. Gøtze, Julia S. Johansen, Jens Kastrup, Cardiac Catherization Lab 2013, Rigshospitalet University Hospital, Copenhagen, Denmark*

Background: Inflammation plays a key role in the development of atherosclerosis leading to manifest cardiovascular disease. YKL-40 is a glycoprotein secreted by macrophages and neutrophils in tissues with inflammation. Plasma YKL-40 is increased in patients with acute and chronic coronary artery disease (CAD) and associated with cardiovascular and all-cause mortality in patients with stable CAD. Furthermore, plasma YKL-40 seems to be related to 1, 2 and 3 coronary vessel disease in patients with stable angina pectoris. The aim was to further explore the correlation between YKL-40, High Sensitivity C-Reactive Protein (HsCRP) and different methods for assessments of CAD degree on angiographies.

Methods: Plasma YKL-40 and HsCRP levels were determined in samples from 206 consecutive patients with stable angina pectoris admitted for elective coronary angiography (CAG). Plasma YKL-40 in 245 healthy subjects was used for comparison. In addition to one to three vessel stenosis scores, two new scores for evaluating coronary angiographies were invented for discriminating between focal and diffuse CAD and the extent of myocardial ischemia.

Results: Plasma YKL-40 levels were increased ($p<0.001$) in patients with CAD compared to healthy controls. Univariate analyses demonstrated that plasma YKL-40 was significantly associated with ischemic myocardium score, age, hypertension, peripheral vascular disease and serum creatinine levels. HsCRP was associated with hypertension, body mass index and smoking habits. Multivariate analyses showed that YKL-40 was related to HsCRP, peripheral artery disease, hypertension, and statin treatment; and HsCRP was related to chronic obstructive pulmonary disease, and body mass index, and smoking habits.

Conclusions: Plasma YKL-40 was increased in patients with CAD compared to controls. The ischemic myocardium score was related to YKL-40 in univariate analyses, but not in multivariate analyses. There was no relation between YKL-40 and HsCRP levels and degree of CAD using several different scoring systems for extend of CAD.