KEY ROLE OF LOW HDL CHOLESTEROL FOR THE ASSOCIATION OF THE METABOLIC SYNDROME WITH INFLAMMATION IN PATIENTS WITH PERIPHERAL ARTERIAL DISEASE

ACC Moderated Poster Contributions
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Background: The association of the metabolic syndrome (MetS) and of the individual MetS stigmata with inflammation in patients with peripheral arterial disease (PAD) has not been investigated yet.

Methods: We enrolled 410 consecutive patients who underwent routine duplex sonography for the evaluation of suspected or established PAD Fontain stages I-III and in whom PAD was verified sonographically. According to National Cholesterol Education Programme Adult Treatment Panel III criteria, the MetS was defined in the presence of at least 3 out of the 5 quantitatively defined criteria large waist circumference, low HDL cholesterol, high triglycerides, high blood pressure, and elevated fasting glucose.

Results: In univariate analyses, CRP was higher in patients with the MetS (n=200) than in those who did not have the MetS (0.94±1.88 vs. 0.56±1.18 mg/dl; p=0.001), and also was higher in patients who fulfilled the large waist (0.93±1.93 vs. 0.59±1.16 mg/dl; p = 0.009) and the low HDL criteria (1.10±1.66 vs. 0.61±1.52 mg/dl; p<0.001) than in those who did not. Importantly however, after adjustment for gender, smoking, BMI and LDL cholesterol by means of ANCOVA only the low HDL cholesterol criterion (F=6.06; p=0.014) remained significantly associated with CRP. The significant and independent association of low HDL with CRP was confirmed after additional adjustment for all other MetS traits (F=7.76; p=0.006).

Conclusion: We conclude that among patients with sonographically proven PAD, low HDL cholesterol drives the association between the MetS and subclinical inflammation. This observation is well in line with the paramount role of low HDL cholesterol as a marker of cardiovascular risk.