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Stable Ischemic Heart Disease

ASSOCIATION OF NON-HIGH DENSITY LIPOPROTEIN-CHOLESTEROL WITH CAROTID INTIMA-MEDIA THICKNESS AND CARDIOVASCULAR EVENTS IN MULTI-ETHNIC STUDY OF ATHEROSCLEROSIS

Poster Contributions

Poster Hall B1

Sunday, March 15, 2015, 9:45 a.m.-10:30 a.m.

Session Title: Traditional and Novel Risk Markers and Outcomes

Abstract Category: 25. Stable Ischemic Heart Disease: Basic

Presentation Number: 1195-373

Authors: *Alexandros Briasoulis, Fayez Siddiqui, Issa Alesh, Anupama Kottam, Luis Afonso, Wayne State University/Detroit Medical Center, Detroit, MI, USA***Background:** Non-high density lipoprotein-cholesterol (non-HDL) is a marker of atherosclerotic risk. In MESA, carotid intima medial thickness (cIMT) >0.97 mm) was found to be an independent predictor of cardiovascular events (CVD).**Methods:** In a multiethnic study of 6,726 men and women (45 to 84 years old), without baseline CHD, we evaluated associations between non-HDL, cIMT and incident CVD events*. Each participant was classified into 3 non-HDL groups (190mg/dl).**Results:** Non-HDL correlated with maximum common and internal cIMT ($p<0.001$ for both). A graded increase of cIMT was observed for every 30 mg/dl of non-HDL levels above 130 mg/dl ($p<0.001$). After adjustments for age, sex, race, systolic blood pressure, anti-hypertension medications, smoking, diabetes, lipid lowering therapy, triglycerides, and waist-hip ratio, a non-HDL cholesterol level of >160 mg/dl independently predicted cIMT above the 75th percentile (>0.97 mm) (Table). Non-HDL >160 mg/dl remained a significant predictor of cIMT and CVD events even after adjusting for hs-CRP.**Conclusion:** Non-HDL >160 mg/dl is associated with increased cIMT and also predicts CVD events independently of traditional risk factors and hs-CRP.**Table: Non-HDL and association with carotid intima-media thickness (cIMT) and cardiovascular (CVD) events.**

Non-HDLc (mg/dL)	Model 1		Model 2	
	OR for cIMT (95%CI) p-value	HR (CVD events) (95%CI) p-value	OR (95%CI) p-value	HR (95%CI) p-value
Overall [N = 6,726]				
Continuous	1.008 [1.006-1.01] <0.001	1.007 [1.005-1.01] <0.001	1.008 [1.006-1.01] <0.001	1.007 [1.004-1.01] <0.001
Categorical				
<160	Reference		Reference	
160 to 190	1.4 [1.16-1.58] <0.001	1.42 [1.08-1.86] 0.012	1.41 [1.2-1.66] <0.001	1.41 [1.07-1.85] 0.013
≥ 190	1.82 [1.47-2.27] <0.001	1.87 [1.32-2.6] <0.001	1.8 [1.45-2.25] <0.001	1.86 [1.3-2.6] 0.001

Model 1: Non-HDLc adjusted for age (continuous), sex (binary), race and follow-up duration, systolic blood pressure (continuous), anti-hypertension medications (binary), smoking (binary), diabetes (binary), lipid lowering therapy (binary), triglycerides and waist-hip ratio.
Model 2: Model 1 + high-sensitivity C-reactive protein.

Abbreviation: OR = Odds Ratio, CI = Confidence Interval, HR = Hazard ratio. * CVD events: myocardial infarction, CHD death, angina, and stroke; n = 524 events; mean 4.5 years follow-up.