CAROTID ARTERY INTIMA-MEDIA THICKNESS (CIMT) ACCRETION RATE AND RISK OF ATHEROGENESIS IN A PRIMARY PREVENTION POPULATION

ACC Poster Contributions
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Background: The incidence of vascular outcomes correlate with CIMT, which increases with time and is associated with age. However, whether the rate of CIMT change might select younger patients for vascular risk and its relation to traditional risk factors is unknown. Thus we tested the relationship between CIMT accretion rate (CIMTar), a crude index of the rate of atherogenesis, and LDL-C.

Methods: Maximum CIMT and traditional CV risk measures were determined in 564 subjects referred to a vascular medicine clinic. The ratio of maximum CIMT to age (CIMTar mm/yr) for each subject was computed to normalize for age.

Results: There was no correlation between CIMTar and LDL-C (Figure); most subjects clustered around 0.017 mm/yr. At every level of LDL-C there were outliers with increased CIMT and CIMTar. Subjects with LDL-C < 100 mg/dl and high CIMT and CIMTar were compared with those with LDL-C > 160 mg/dl and normal CIMT and CIMTar only mean systolic blood pressure (mean 133 mmHg and 127 mmHg, respectively) and age (mean 54 yrs and 45 yrs, respectively) differed significantly between these groups (p < 0.01, respectively).

Conclusions: Constant CIMTar independent of LDL-C and high CIMT/CIMTar in some subjects with normal LDL-C highlights the need for carotid ultrasound in risk assessment. CIMTar may help identify risk-resistant/intolerant subgroups and new factors/targets in early atherogenesis; its utility in predicting premature vascular outcomes merits investigation.