CAROTID INTIMA MEDIA THICKNESS CONFIRMS PROTECTION AGAINST ATHEROSCLEROSIS IN PATIENTS WITH ASCENDING AORTIC ANEURYSM

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Sunday, March 25, 2012, 11:00 a.m.-Noon

Session Title: Prevention: Clinical: Novel Research in Prevention
Abstract Category: 9. Prevention: Clinical
Presentation Number: 1189-482

Authors: Adelina Hung, Mohammad Zafar, Maryana Tranquilli, Leslie Scoutt, John Elefteriades, Yale University - School of Medicine, New Haven, CT, USA

Previous evaluation of total aortic calcium score suggests that mutations promoting ascending aortic aneurysm development may protect against atherosclerosis. However, calcium score is a late indicator for atherosclerosis. We evaluated carotid intima media thickness (IMT), an earlier indicator, to assess the degree of atherosclerosis in ascending aortic aneurysm patients compared to controls.

Images of the RT and LT common carotid arteries were obtained in 52 patients with ascending aortic aneurysms and 29 controls using a Sonosite MicroMaxx ultrasound. The IMT was measured with Sonosite Sonocalc IMT software, a computer based algorithm with manual override. Six IMT measurements were obtained for each patient (RT and LT prox, mid, and distal) by a single observer and averaged. A multiple linear regression analysis was applied to test for an association between aneurysm and carotid IMT.

Patients with ascending aortic aneurysms had 0.131mm lower carotid IMT values compared to patients in the control group (p = 0.0002) independent of risk factors for atherosclerosis (age, BMI, gender, family history, smoking, dyslipidemia, race, diabetes, HTN). Age increased the IMT by 0.005mm (p = 0.0003). There was no significant difference in age between the two groups.

This provides further evidence that ascending aortic aneurysm provides protection against atherosclerosis, supporting the idea that pro-aneurysmal genetic mutations are also anti-atherogenic - a “silver lining” in the cloud of aneurysm disease.