CORRELATION BETWEEN TOTAL AORTIC VOLUME AND AORTIC DISTENSIBILITY IN PATIENTS WITH MARFAN SYNDROME

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Saturday, March 24, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Imaging: Valvular and Vascular Function Applications of MRI
Abstract Category: 21. Imaging: MRI
Presentation Number: 1090-181

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Introduction: Reduction in aortic elasticity has been shown to be an independent predictor of aortic complications in adults with Marfan syndrome (MFS). Aortic volume assessment is a sensitive method facilitating surveillance of global aortic expansion rate in patients with MFS. We have sought to determine the correlation between aortic volume and aortic distensibility in MFS patients, using magnetic resonance imaging (MRI).

Methods: All patients were participants of the COMPARE study, which studies prospectively the effect of losartan on the aortic expansion rate in patients with Marfan syndrome. All patients were diagnosed with Marfan syndrome according to the Ghent Nosology. Aortic volume and distensibility were assessed by MRI.

Results: Overall, 62 Marfan syndrome patients were included (52 % male, mean age 37±13 years). Mean aortic volume was 233±65 ml and mean blood pressure was 87±10mmHg. A significant correlation was found between aortic volume and aortic distensibility at thoracic aortic level (R² = -0.5, P<0.001) and aortic bifurcation level (R² = -0.3, P<0.034).

Conclusion: In patients with MFS, aortic volume measurements seem to be associated with aortic distensibility. Further studies are required to assess the value of this correlation to predict aortic complication in Marfan syndrome.