

P23. Bicuspid Aortic Valve Morphology Does Not Affect Pathologic Phenotype

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OBJECTIVES: Bicuspid aortic valve (BAV) occurs in 1-2% of patients. Surgery is often required to address ascending aortic aneurysm (AAA), valvular insufficiency or valvular stenosis. It is not known if valve morphology determines the clinical pathologic phenotype.

METHODS: Between January 2002 and April 2007, 174 pts with BAV underwent surgery for either aortic root replacement or aortic valve replacement. In 111 patients, intra-operative transesophageal echocardiograms were available and were used to determine valve morphology. Patients were grouped into those with AAA (aortic diameter \geq 4.5cm) and those without AAA (aortic diameter $<$ 4.5cm).

RESULTS: Fifty-Six patients (45 male; mean age 59y) had maximum aortic diameter \geq 4.5cm. Of these, 39 (69.7%) had Right-Left coronary cusps (R-L) fusion, 12 (21.4%) had Right-Non coronary cusps (R-N) fusion and 5 (8.9%) had Left-Non coronary cusps (L-N) fusion. Fifty-five patients (34 male; mean age 57y) had maximum aortic diameter $<$ 4.5cm. Of these, 44 (80%) had R-L fusion, 9 (16.4%) had R-N fusion, 2 (3.6%) had L-N fusion. This morphologic distribution is similar to the distribution of R-L, R-N and L-N fusion seen in the general BAV population.

CONCLUSIONS: Valve morphology is not related to pathologic phenotype in patients with BAV. Aortic dilation and valvular dysfunction are likely the result of intrinsic aortic tissue pathology rather than a consequence of altered valvular hydraulics.

Ascending Aorta	>4.5 cm	
n	56	55
R-L fusion	39	44
R-N fusion	12	9
L-N fusion	5	2