



Congenital Cardiology Solutions

THE EFFECT OF ANGIOTENSIN-CONVERTING-ENZYME INHIBITORS ON THE RATE OF ASCENDING AORTA DILATION IN PATIENTS WITH BICUSPID AORTIC VALVES

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Congenital Cardiology Solutions: Aortic Disease

Abstract Category: 13. Congenital Cardiology Solutions: Pediatric

Presentation Number: 1246-122

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Background: Bicuspid aortic valve (BAV) is associated with progressive dilation of the aorta that can lead to dissection. Based on data from other form of aortopathy some have suggested that angiotensin-converting-enzyme inhibitors (ACEI's) can decrease the rate of dilation of the ascending aorta. We sought to determine if ACEI's reduce the rate of aortic dilation in adolescents and young adults with BAV.

Methods: A retrospective cohort study of adolescents and young adults with BAV (n = 142) seen at our institution from 2000 to 2011 was performed. Clinical data were reviewed and ascending aorta measurements were taken in serial echocardiograms. Linear regression was used to determine whether ACEI use was associated with a slower rate of growth in the ascending aorta Z score.

Results: Of the 142 subjects, 37 used ACEI's and 105 did not. ACEI use was practitioner dependent. At initial measurement the mean age was 17.6 years and the mean ascending aorta Z score was 3.6. The median duration of follow-up was 27 months with a range of 6 to 75 months. The study groups were comparable in terms of age, body surface area, and length of follow up. There were differences between the groups in sex, initial ascending aorta size, and degree of aortic insufficiency. The treatment group had a higher percentage of males (84% versus 65%), larger initial ascending aorta z scores (4.5 versus 3.2), and a higher percentage of moderate aortic insufficiency (32% versus 9.5%). The mean rate of change in Z score per year was 0.005 for the treatment group and 0.1 for the control group. Use of ACEI was not significantly associated with change in Z score, p value 0.38.

Conclusions: ACEI use was not found to significantly alter the rate of aortic dilation in BAV patients in this population. What, if any, role ACEI's have in the routine care of these patients remains to be determined.