

POSTER PRESENTATION

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Congenital bicuspid aortic valve in pediatric and early adulthood: Is there a relationship between the valvular leaflet fusion pattern and other functional parameters

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Background

Bicuspid aortic valve (BAV) represents the most frequent congenital cardiac abnormality resulting in premature valvular degeneration and aortic dilatation.

Our aim was to detect a relationship between the leaflet fusion pattern and other functional parameters including valvular regurge, stenosis and pressure gradient.

Methods

One hundred patients between 3 months to 26 years were included in the study. They were 78 males and 22 females. BSA for the patients ranged from 0.45-2.27. All patients were subjected to clinical examination, transthoracic echocardiography and CMR on a 1.5T machine. We recorded the leaflet fusion pattern, presence of AS, AR, pressure gradient, EF, LVEDV, aortic diameter at the annulus, sinus, arch and ascending aorta levels. Associated findings were all recorded.

Results

Sixty patients had right and left coronary cusps (R-L) fusion showing mean pressure gradient of 23.5 ± 14.8 of those 48% patients showed AS while 52% had AR. Forty patients had right and noncoronary cusps (R-N) fusion with 44.5 ± 31 pressure gradient with $P = 0.02$, of those 75% had AS while 45% had AR with 20% showing combined lesions. Ejection fraction was within normal range except in patients with associated myocardial lesions. LVEDV ranged from 49-185 ml. Aorta was dilated in 38 cases with no predilection for any leafleted fusion type. Associated co-aortcation of the aorta was detected in

22 patients of which 18 had R-L fusion. Other associations were PDA (8 cases), VSD (8 cases), hypoplastic aortic arch (6 cases), DCM and DORV (2 cases each).

Conclusions

Our study showed that patients with R-L leaflet fusion had lower pressure gradient and a higher association with co-aortcation of the aorta, while patients with R-N leaflet fusion had higher pressure gradient with higher incidence of aortic stenosis.

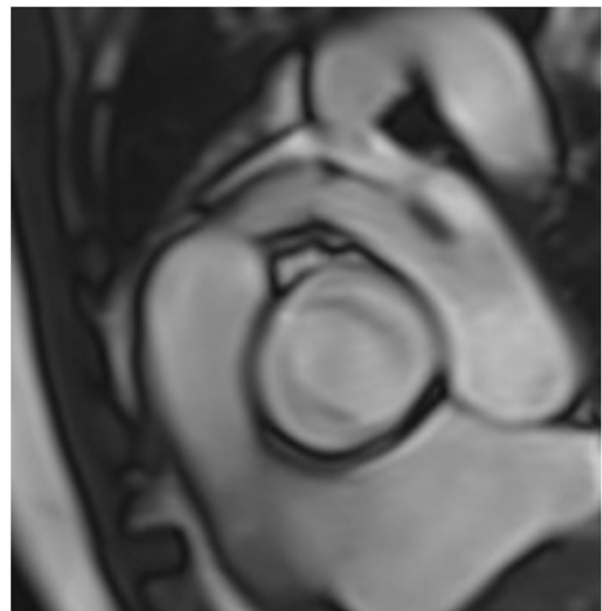


Figure 1 bicuspid aortic valve in a 10 yr old male.

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