

## **A UNIQUE CASE WITH AORTIC VALVE PROLAPSING**

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### **ABSTRACT**

Aortic Valve Prolapse (AVP) is defined when either or both of the right or non-coronary aortic valve cusps (which are seen in the cross sectional echocardiographic long axis [L-AX] view) are showing backward bowing towards the left ventricle beyond a line joining the points of attachment of the aortic valve leaflets to the annulus. AVP was identified in 24 cases (1-2 %) of 2000 consecutive patients. We present here a case of AVP with an unique valve formation and long elongation with infective endocarditis. A 72-year old male patient was admitted to our intensive care unit with acute renal failure and sepsis condition. It is important to underline that AVP may be the cause of aortic regurgitation, particularly in bicuspid aortic valves (BAV) which the valves are prone to be destroyed by infection.

**Keywords:** Aortic valve Prolapse, Bicuspid Aortic Valve, Infective endocarditis

### **INTRODUCTION**

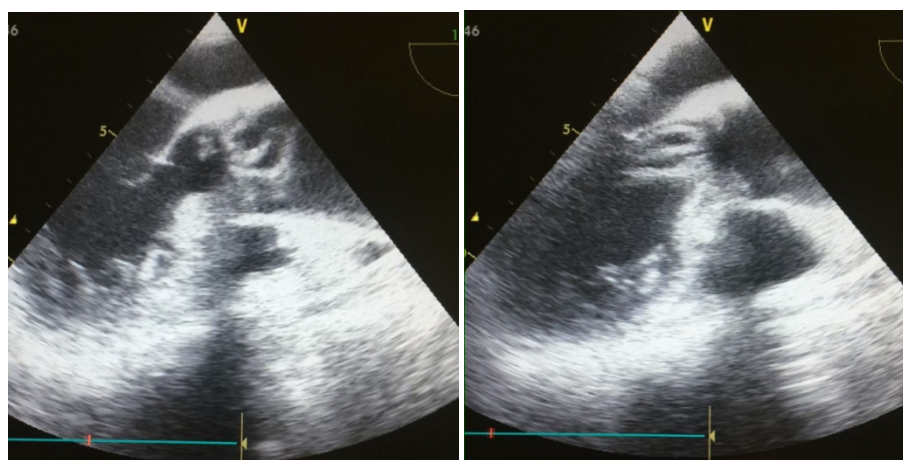
Aortic Valve Prolapse (AVP) is defined when either or both of the right or non-coronary aortic valve (AV) cusps (which are seen in the cross sectional echocardiographic long axis [L-AX] view) are showing bowed backward bowing towards the left ventricle beyond a line joining the points of attachment of the aortic valve leaflets to the annulus. AVP was identified in 24 cases (1-2%) of 2000 consecutive patients<sup>(1)</sup>. AVP can be associated with aortic regurgitation, myxomatous degeneration but also by post-inflammatory changes, including

those caused by rheumatic fever, atrial septal defect, ventricular septal defect, Marfan's syndrome, or other disease like infective endocarditis.<sup>(2-3)</sup> We present here a AVP case with an unique valve formation and long elongation with infective endocarditis. Initial transthoracic echocardiographic examination was performed using 3,4 MHz 3SRS transducer (GE vivid s5, Tirat Carmel, Israel) which showed an AVP into left ventricle in parasternal L-AX view.

**Case:**

A 72-year old male patient was admitted to our intensive care unit with acute renal failure and sepsis condition. He had a lung cancer treatment in recent history. Physical examination revealed blood pressure was 117/34 mmHg and heart rate was 65 bpm. His ECG has showed normal sinus rtyhm. Initial transthoracic echocardiographic examination was performed using 3,4 MHz 3SRS transducer (GE vivid s5, Tirat Carmel, Israel) which showed an AVP into left ventricle in parasternal L-AX view (Figure 1). Better imaging was obtained with

transesophageal examination with mid esophageal L-AX, AV short or long- AX views (Figure 2). We could not have distinguish bicuspid or tricuspid aortic valves on AV short-AX view but there was seen also probably an infective vegetation between AV cups that which later gram negative E.coli bacteremia was grown in blood sample culture. WBC was  $31,7 \cdot 10^3 \text{ mm}^3$ , CRP: 16,7mg/dL in blood chemistry results and triple antibiotic medicine treatment was initiated. But although effective treatment he deceased after ten days later.



**Figure 1-2:** Outlining of AVP in parasternal L-AX view.

**DISCUSSION**

AVP is defined when either or both of the right or non-coronary AV cusps (seen in the cross sectional echocardiographic long .axis view) are showing backward bowing towards the left ventricle beyond a line joining the points of attachment of the AV leaflets to the annulus. In a series of 2000 consecutive patient which were examined with transthoracic echocardiography, AVP was identified in 24 cases (1-2 %) (1). AVP is a either be isolated or associated with abnormalities of the aortic root

and ascending aorta. The aetiologies of isolated cusp prolapse of tricuspid aortic valves are varied like post-inflammatory degenerative, including those caused by rheumatic fever, traumatic, infections, myxomatous degeneration but also atrial septal defect, ventricular septal defect, Marfan's syndrome, or other disease that may accompany mitral or aortic valve prolapse. Prolapse associated with aortic root pathology are usually due to the overdistension of the cusps which are seen in late disease process or to the detachment of one

or more commissures as in acute dissection (2-3). AVP was graded as follows: grade I, prolapse of one cusp; grade II, prolapse of two cusps; grade III, prolapse of all three cusps (3). BAV is a important topic in AVP patients although only 30% of those patients with a BAV showed prolapse in that series (1). It is important to underline that AVP may be the cause of aortic regurgitation, particularly in BAV which the valves are prone to be destroyed by infection, we did not see any aortic regurgitation in our patient but infectious bacteremia with E.coli agent was grown in blood culture samples.

## CONCLUSIONS

There is no standard definition of aortic valve prolapse, but there is clear evidence of downward displacement and cuspal material below the aortic valve annulus AVP was an infrequent finding in patients undergoing routine clinical echocardiography. The aetiologies of isolated cusp prolapse of tricuspid aortic valves are varied but bicuspid aortic valves are prone to be destroyed by infection.

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**Source of Support: Nil**

**Conflict Of Interest: None Declared**

How to cite this URL: Boduroglu Yalcin & Son Erenoglu Nazan: A Unique Case With Aortic Valve Prolapsing. *International Ayurvedic Medical Journal* {online} 2017 {cited December, 2017}; Available from: [http://www.iamj.in/posts/images/upload/4333\\_4335.pdf](http://www.iamj.in/posts/images/upload/4333_4335.pdf)