Editorial
Volume 6:3, 2022

Journal of Coronary Heart Diseases

ISSN: 2684-6020 Open Access

Editorial on Aortic Bicuspid Valve

Marcella Faria*

Department of Cardiology, University of Cologne, Germany

Editorial

Bicuspid aortic valve (BAV) affects 1% of the general population. It is the most common congenital cardiac disease in the world. Men suffer more than women (sex ratio 3:1), despite their widespread distribution, their genetic, molecular, embryologic, and developmental origins are unknown. The severity of this perplexing disease is reflected in the nine-fold increased risk of dissection or rupture as a result of aortic aneurysm development. Aneurysm [1-3] growth history appears to be multifactorial, with both hemodynamic and histological origins, reinforcing the notion that BAV is a complex "bicuspid disease" involving both aortic valve and aorta disorders.

The bicuspid aortic valve is an anatomical abnormality characterized by a missing commissure and, as a result, an outnumbered leaflet. The number of leaflets is determined by the commissure number. One or two commissures may be insufficient. A raphe can sometimes take the place of commissures. Raphe is a type of scar tissue or "fused area" formed by the union of two underdeveloped cusps. There are five different types of BAV. They differ in terms of commissure and raphe number, as well as localization and orientation. This complex process also involves the sinuses and the position of the coronary orifice. We do not consider an aortic valve with two raphes (one commissure) as a subtype of BAV in this article. This valve configuration belongs to the unicuspid valve family.

It is critical to emphasise that the valve is only one aspect of the disease. Furthermore, the aortic wall is abnormal, with intrinsic histological anomalies that promote the development of aneurisms. Aortic dilatation is found in 35-80% of cases, with tubular aorta being the most commonly affected. Because of both anomalies, BAV patients face two major complications: valve degeneration with a high level of calcification and an increased risk of aortic dissection secondary or not to dilatation. BAV represents a group of diseases with diverse phenotypes, etiologies, and pathogenesis that still require investigation for a complete understanding.

Bicuspid aortic valve is a type of heart disease that is inherited (congenital heart disease). The aortic valve connects the left lower heart chamber (left ventricle) to the main artery of the body (aorta). Cusps of tissue on the valve open and close with each heartbeat, ensuring that blood flows in the proper direction. The aortic valve typically has three cusps. There are only two cusps on a bicuspid valve. Some people are born with an aortic valve that has one cusp (unicuspid) or four cusps (bicuspid) (quadricuspid). A bicuspid aortic valve can cause heart problems such as aortic valve narrowing (aortic valve stenosis). As a result, the valve may not fully open. The flow of blood from the heart to the body is restricted or blocked.

Blood flow in reverse (aortic valve regurgitation). The bicuspid aortic valve does not always close tightly, allowing blood to flow backward. Aorta enlargement (aortopathy) the aorta of some people with bicuspid aortic valves is enlarged. An enlarged aorta increases the likelihood of an aortic lining tear (aortic dissection). A bicuspid aortic valve may be discovered during medical testing for another condition. When your doctor listens to your heart with a stethoscope, he or she may detect a heart murmur. An echocardiogram is used to confirm the presence of a bicuspid aortic valve. An echocardiogram creates video images of your heart in motion using sound waves. It can demonstrate to your doctor the aortic valve, aorta, heart chambers, and blood flow through your heart. A computed tomography (CT) scan is usually performed to check for an enlarged aorta if you have a bicuspid aortic valve.

If you have a bicuspid aortic valve, you will most likely be referred to a congenital heart disease specialist (congenital cardiologist). Children and adults with bicuspid aortic valves [4,5] require regular doctor visits and echocardiograms to detect valve leaking (regurgitation) or stiffening (stenosis) or an enlarged aorta. Treatment is determined by the severity of the heart valve disease. A bicuspid heart valve cannot be treated with medication. Your doctor may, however, prescribe medications to treat related heart problems such as high blood pressure. Aortic valve stenosis, regurgitation, or an enlarged aorta may necessitate surgery.

Surgery to repair or replace the aortic valve may be required. The type of surgery performed is determined by your specific condition and symptoms. Replacement of the aortic valve the damaged valve is removed and replaced with a mechanical valve or a valve made from cow, pig, or human heart tissue by the surgeon (biological tissue valve). It is sometimes possible to replace a biological tissue valve with your own pulmonary valve.

Conflict of Interest

None.

References

1. Lock J.E, John L. Bass, K. Amplatz and B.P. Fuhrman, et al. "Balloon dilation angioplasty of aortic coarctations in infants and children." *Circ J* 68 (1983): 109-116.
2. Grüntzig, Andreas R., Åke Senning and Walter E. Siegenthaler. "Nonoperative dilatation of coronary-artery stenosis: percutaneous transluminal coronary angioplasty." *N Engl J Med* 301(1979): 61-68.
3. Spence, Richard K., David B. Freiman and Robert Gatenby. "Long-term results of transluminal angioplasty of the iliac and femoral arteries." *Arch Surg* 116 (1981): 1377-1386.
4. Wolbink, Gert Jan, Mieke C. Brouwer and Saskia Buysmann. "CRP-mediated activation of complement *in vivo*: assessment by measuring circulating complement-C-reactive protein complexes." *J Immunol* 157 (1996): 473-479.
5. Bataille, Régis and Bernard Klein. "C-reactive protein levels as a direct indicator of interleukin-6 levels in humans *in vivo*." *Arthritis Rheum* 35 (1992): 982-983.

***Address for Correspondence:** Marcella Faria, Department of Cardiology, University of Cologne, Germany, E-mail: MarcellaFaria125@gmail.com.*

Date of Submission: 03-May-2022, Manuscript No. jchd-22-70517; **Editor assigned:** 04-May-2022, Pre QC No. P-70517; **Reviewed:** 09-May-2022, QCNo.Q-70517; **Revised:** 14-May-2022, Manuscript No.R-70517; **Published:** 19-May-2022, DOI: 10.37421/ 2684-6020.2022.6.144

How to cite this article: Faria, Marcella. "Editorial on Aortic Bicuspid Valve." *J Coron Heart Dis* 6 (2022):144.