

Mitral Valve Stenosis

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DESCRIPTION

Mitral valve stenosis sometimes called stenosis which could be a narrowing of the heart's mitral valve. This valve doesn't open properly, blocking blood flow into the most pumping chamber of your heart (left ventricle). Atrio-ventricular valve stenosis can cause tired and shortness breath, among other problems. Normally, the mitral valve is about 5 cm² during diastole. Any decrease in area below 2 cm² causes mitral stenosis. The association of atrial septal defect with rheumatic mitral stenosis is called Lutembacher syndrome. Stenosis of the mitral valve typically occurs decades after the episode of acute rheumatic carditis. Acute insult leads to formation of multiple inflammatory foci (Aschoff bodies, perivascular mononuclear infiltrate) in the endocardium and myocardium. The main reason for mitral valve stenosis is an infection called rheumatic fever, which is said to strep infections. Rheumatic Fever now rare within the U.S, but still common in developing countries. Left untreated, bicuspid valve stenosis can cause serious heart complications.

The normal area of the mitral valve orifice is about 4 to 6 cm². In normal cardiac physiology, the mitral valve opens during left ventricular diastole, to allow blood to flow from the left atrium to the left ventricle. A normal mitral valve will not impede the flow of blood from the left atrium to the left ventricle during (ventricular) diastole, and the pressures in the left atrium and the left ventricle during ventricular diastole will be equal. The result is that the left ventricle gets filled with blood during early ventricular diastole, with only a small portion of extra blood contributed by contraction of the left atrium (the "atrial kick") during late ventricular diastole.

When the mitral valve area goes below 2 cm², the valve causes an impediment to the flow of blood into the left ventricle, creating a pressure gradient across the mitral valve. This gradient may be increased by increases in the heart rate or cardiac output. As the gradient across the mitral valve increases, the amount of time necessary to fill the left ventricle with blood increases. Eventually, the left ventricle requires the atrial kick to fill with blood. As the heart rate increases, the amount of time that the ventricle is in diastole and can fill up with blood (called the diastolic filling period) decreases. When the heart rate goes above a certain point, the diastolic filling period is insufficient to fill the ventricle with blood and pressure builds up in the left atrium, leading to pulmonary congestion

Although medications can't fix a valve defect, they will help with symptoms. Health care team may prescribe diuretics to scale back fluid accumulation within the lungs, blood thinners to stop clots from forming, or drugs to regulate the guts rhythm if those are indicated. The mitral valve can usually be repaired or replaced with surgery, or a minimally invasive procedure. The selection of procedure is predicated on many factors including the explanation for the mitral valve stenosis (rheumatic or calcific), condition of the valve, and risk of surgery, severity of symptoms, heart function, and availability of procedures.

Mitral stenosis is often caused by congenital heart defects, mitral valve prolapse, rheumatic fever, lupus and other conditions. Rheumatic fever may be a childhood illness that sometimes occurs after untreated streptococcal sore throat.

Causes of mitral valve stenosis

Rheumatic fever is rare in developed countries like the U.S but remains a priority in developing nations. Infectious disease can damage the center valves resulting in rheumatic heart condition. Mitral valve stenosis resulting from RHD is named rheumatic mitral valve stenosis. Although most mitral valve stenosis is caused by RHD, it also can result from a calcium build abreast of the heart valves. This is often more common in older patients and is named calcific mitral valve stenosis.

Risk factors

Mitral valve stenosis isn't as common because it once was because the foremost common cause, rheumatic fever, is rare within the U.S. However, infectious disease remains a drag in developing nations. Risk factors for bicuspid valve stenosis include untreated strep infections and a history of rheumatic fever. Older adults are at increased risk of bicuspid valve stenosis. As you age, calcium deposits can build up round the bicuspid valve, which can cause mitral valve stenosis. Rarely, people that receive radiotherapy to the chest area surely sorts of cancer may develop mitral valve stenosis.

Mitral Valve Commissurotomy

For rheumatic mitral valve stenosis, a commissurotomy could also be performed. During this procedure the valve leaflets that became fused together are separated. This will be done employing a

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Received: 01-Jul-2022; Manuscript No. AOA-22-12401; Editor assigned: 04-Jul-2022; PreQC. No. AOA-22-12401 (PQ); Reviewed: 18-Jul-2022; QC. No. AOA-22-12401; Revised: 25-Jul-2022; Manuscript No. AOA-22-12401 (R); Published: 01-Aug-2022, DOI: 10.35248/2329-9495.22.S4.001

Citation: William WL (2022) Mitral Valve Stenosis. Angiol Open Access. S4:001.

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balloon (percutaneous mitral balloon commissurotomy or PMBC) or surgery. In both cases, once the leaflets are separated, the valve opening is increased and blood flow through the valve is improved. In additional advanced rheumatic bicuspid valve stenosis, surgical repair or replacement of the mitral valve could also be required.

CONCLUSION

The best way to prevent bicuspid valve stenosis is to stop its commonest cause, infectious disease. Untreated streptococcal sore throat infections can become rheumatic fever. Fortunately, streptococcal sore throat is typically easily treated with antibiotics.