Mitral Stenosis

Mitral stenosis is a valvular heart disease caused by narrowing of the opening of the mitral valve. The mitral valve is a bicuspid valve that lies between the left atrium and the left ventricle. During diastole, the mitral valve normally opens allowing the left ventricle to fill with blood. At the end of diastole, the mitral valve closes to prevent reversal of blood flow back into the left atrium. A normal mitral valve does not impede blood flow from the left atrium during the left ventricle during diastole but when the mitral valve orifice is decreased, the valve impedes the flow of blood to the left ventricle. Auscultation of an individual with mitral stenosis reveals an opening snap after the S2 heart sounds, which is caused by the forceful opening of the mitral valve. After the opening snap, there is a late diastolic rumbling murmur that does not radiate. The murmur is typically enhanced by expiration, due to increase in venous return from the pulmonary veins to the left heart. Almost all cases of mitral stenosis are due to heart disease secondary to recurrent attacks of rheumatic fever. As the stenosis worsens, there is an increase in the left atrial pressures due to an increase in the pressure required to push blood through the stenotic valve. The constant pressure overload of the left atrium can cause dilation which can compress the esophagus. Individuals with atrial dilation are also more prone to atrial fibrillation.



PLAY PICMONIC

Characteristics

Murmur Follows Opening Snap
Towel Snap
Auscultation of an individual with mitral stenosis reveals an opening snap after the S2 heart sounds, which is caused by the forceful opening of the mitral valve. This is followed by a diastolic murmur.

Late Diastolic Murmur
Late Dice Merman
After the opening snap, there is a late diastolic rumbling murmur that does not radiate. The murmur occurs in diastole because the stenotic valve impedes the filling of the left ventricle during diastole.

Enhanced by Expiration
Enhanced Exhaust-pipe
The murmur is typically enhanced by expiration due to increase in venous return from the pulmonary veins to the left heart.

Low-Pitched Rumbling
Low Pitched bass drum
The murmur is low-pitched and best heard with the bell of the stethoscope. The duration of the murmur increases with worsening stenosis.

Dilation of Left Atrium (LA)
Enlarged Left Atrium labeled LA
As the stenosis worsens, there is an increase in the left atrial pressures due to an increase in the pressure required to push blood through the stenotic valve. The constant pressure overload of the left atrium can cause dilation, which can compress the esophagus. Individuals with atrial dilation are also more prone to atrial fibrillation.

Recurrent Attacks of Rheumatic Fever
Recurring Roman Fever-beaver
Almost all cases of mitral stenosis are due to heart disease secondary to recurrent attacks of rheumatic features. Rheumatic fever is an immunologically mediated inflammatory disease that typically develops two to three weeks after an episode of group A streptococcal pharyngitis.

Sign up for FREE at picmonic.com