

Mitral regurgitation

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Mitral regurgitation (MR) is a disease of the heart in which the mitral valve does not close properly in systolic phase. Acute MR causes significant hemodynamic change and the patients with acute MR require medical treatment and usually surgical management. Although there are many causes of acute MR, there are usually three basic mechanisms of acute native valve MR.

1. Ruptured mitral chordae tendineae due to myxomatous disease, infective endocarditis, or trauma, rheumatic heart disease, or spontaneous rupture.
2. Papillary muscle rupture due to acute myocardial infarction (MI) or trauma or papillary muscle displacement due to MI or ischemia.
3. Induction of MR in the setting of dynamic left ventricular outflow obstruction. This complication has been seen in patients with left ventricular hypertrophy, as well as in patients with MI or stress induced- cardiomyopathy.

The patients with acute MR are typically severely symptomatic and will have the signs and symptoms of acute decompensated heart failure (shortness of breath, pulmonary edema), as well as cardiogenic shock. Cardiogenic shock may be observed in patients with acute MI due to papillary muscle rupture, rupture of a chorda tendinea or infective endocarditis of the mitral valve

Diagnostic tool of acute MR consists of an electrocardiogram, chest radiograph, echocardiography, and, in some patients, coronary angiography.

Echocardiography is the noninvasive imaging modality for quantitative and qualitative evaluation of cardiac anatomy and function. It should be performed and useful to assess acute MR. Transthoracic echocardiography can underestimate the severity of MR due to inadequate imaging of the color flow jet. Transesophageal echocardiography provides improved images of the mitral valve and assessment of regurgitant severity. Acute MR is a medical and surgical emergency, as the patient typically presents in acute pulmonary edema or cardiogenic shock. In most cases, the definitive treatment is prompt surgical management.

References

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