

# 35. Mitral Regurgitation

## Etiologies of Mitral Valve Regurgitation

### CHRONIC

- Ischemic Heart Disease
- Rheumatic heart disease
- Papillary muscle dysfunction
- Mitral valve prolapse
- Endocarditis
- Calcification of the mitral valve annulus
- Accompanying hypertrophic obstructive cardiomyopathy
- Congenital endocardial cushion defect, corrected transposition
- Endocardial fibroelastosis
- Severe left ventricular dilation

### ACUTE

- Ruptured chordae tendineae
- Papillary muscle rupture
- Endocarditis

### Acute MR:

- Initial LA size is small and noncompliant. A sudden increase in pressure in LA results in pulmonary congestion

### Chronic MR:

- LA dilates over time and attempts to accommodate the regurgitant volume. Far less pulmonary congestion

### Physical Exam Differential Diagnosis:

MR	S <sub>1</sub> soft, S <sub>2</sub> widely split, S <sub>3</sub> may be present High pitched holosystolic murmur most prominent at apex with radiation to axilla
VSD	Murmur over LLSB. Doppler shows L to R shunt Cardiac cath reveals O <sub>2</sub> step up from RA to RV
HOCM	Associated MR also may be present HOCM murmur increases with Valsalva and Amyl nitrate Murmur decreases with squatting and handgrip
AS	Confusion occurs if MR due to rupture of posterior chordae tendinae with murmur to aortic area Some pts with AS, murmur is louder at apex, " <i>Gallavardin Dissociation</i> "

### Therapy: Afterload Reduction.

- Acute MR: Nitride. IABP-Intra-aortic balloon pump
- Chronic MR: ACEI-ARB, Diuretics, Aldosterone blockade

### Surgical Timing in Chronic MR:

- MV repair is preferred over MV replacement
- "Golden Moment": EF < 55% or LVES diameter > 45
- Earlier surgery for mitral valve repair than replacement

### Recommend for Observation

#### **Mitral Regurgitation:**

- LV < 40 mm (Echo every 12 months)
- 41-45 mm (Echo every 6 months)

**Ischemic mitral regurgitation** (IMR) is a common complication after acute myocardial infarction due to annulus dilatation and papillary muscles displacement. Moderate and severe IMR have indications for MV surgery. If patient is going for CABG the presence of moderate IMR has to be corrected.