

MITRAL STENOSIS: ANESTHETIC MANAGEMENT

Anesthetic Pearls: Anesthetic Management and Implications of Mitral Stenosis

Normal valve area is 4-6 cm²

Degrees of Stenosis:

- Mild stenosis 1.5-2.5 cm
- Moderate stenosis 1-1.5 cm
- Severe/critical stenosis < 1 cm

Origin: usually rheumatic.

- Debilitating symptoms develop 1-2 decades after acute disease
- Sx: fatigue, dyspnea on exertion, angina, arrhythmias

Left ventricle- relatively under loaded / under filled

Left atrium- increased pressures and mild to moderate left atrial enlargement

Pulmonary artery catheter- place cautiously. Interpret data carefully. May have large "A-wave" if not in atrial fibrillation. PCWP often *overestimates* LVEDP. Persistent elevations in left atrial pressure may lead to perivascular edema in lung, increased work of breathing, and right ventricular pressure overload which may result in pulmonary hypertension and RV dysfunction.

Anesthetic Management:

****Prevent Problems!****

1. *Avoid tachycardia-* blood flow across the valve occurs in diastole.
2. *Avoid pulmonary hypertension-* right ventricle may be impaired from chronic pulmonary HTN.
3. Keep *preload* adequate for forward flow across stenotic valve but be careful not to overfill which can end up in florid pulmonary edema.
4. *Systemic vascular resistance-* continue to adequately maintain (afterload reduction **not** helpful in improving forward flow)
5. *Heart rate-* normal sinus rhythm preferred (often in atrial fibrillation, so control ventricular response to allow time for filling)

