

Valvular Disease Of The Heart

Assistant lecturers

Alaa Hamza Hermis

Al-Mustaqbal University College

Department of Nursing

2nd Class

Adult Nursing

Definition:

- The function of normal heart valves is to maintain the forward flow of blood from the atria to the ventricles and from the ventricles to the great vessels.
- Valvular damage may interfere with valvular function by stenosis or by impaired closure that allows backward leakage of blood (**valvular insufficiency, regurgitation, or incompetence**).

Valvular Disorders

- Mitral stenosis
- Mitral regurgitation
- Mitral valve prolapse
- Aortic stenosis
- Aortic regurgitation

STENOSIS

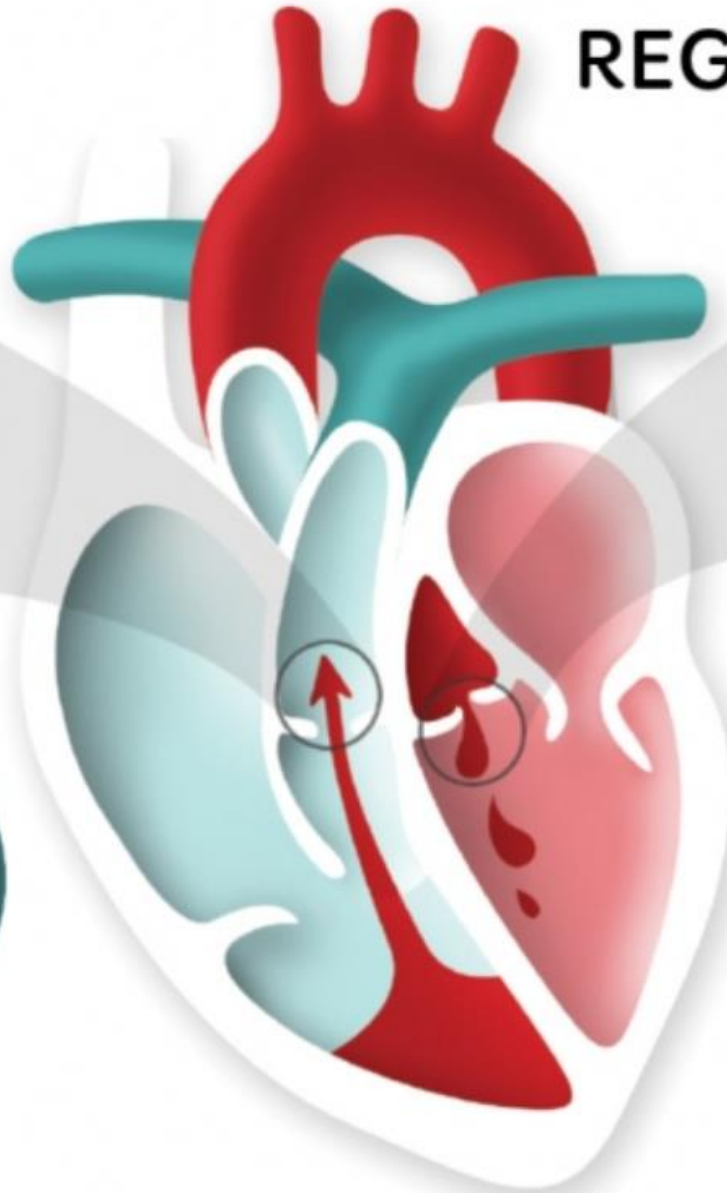
REGURGITATION



DOESN'T OPEN PROPERLY



NORMALLY OPEN



DOESN'T CLOSE PROPERLY



NORMALLY CLOSED

Mitral Stenosis

- **Most common cause: rheumatic fever**
- Results from rheumatic carditis
- Causing valve thickening by fibrosis and calcification
- **Non-rheumatic causes**
- Atrial tumor
- Calcium accumulation

- **Diagnostics**
- Echocardiogram
- Chest X ray
- EKG
- Cardiac catheterization

Clinical Manifestations

Mild stenosis

- Asymptomatic
- Dyspnea on exertion (DOE)
- Orthopnea
- Paroxysmal nocturnal dyspnea (PND)
- Dry cough

Later

- **Hemoptysis**(Cough with Blood)
- Pulmonary edema
- Right-sided heart failure
- Hepatomegaly (Enlargement of the liver)
- Neck vein distention (JVD)
- Pitting edema
- Apical diastolic murmur

Mitral Regurgitation

- Mitral Regurgitation (Insufficiency)
- Fibrotic and calcific changes prevent the mitral valve from closing completely during systole.
- End result left atrial and ventricular dilation and hypertrophy.
- **Causes**
- Rheumatic heart disease
- Degenerative calcification
- Left ventricular hypertrophy
- MI
- Congenital defects

Clinical Manifestations

- Progresses slowly
- Asymptomatic for decades
- Fatigue
- Chronic weakness
- DOE
- Orthopnea
- Normal blood pressure
- Atrial fibrillation (75% of all clients).
- Changes in respiratory patterns
- High pitched systolic murmur at apex
- Third heart sound (S3 or S4)

Surgical management

- Valve replacements
- Prosthetic
- Biologic
- Surgical repairs
- Balloon valvuloplasty –cath lab
- Reconstructive or “Valvuloplasty”:
 - a. Open commissurotomy
 - b. Annuloplasty repairs

- **Pre-Operative Care**
- Similar to CABG surgery
- Pain
- Incisional care
- Prevent pulmonary complications
- STOP oral anticoagulants
72 hours before procedure
- **Post-Operative Care**
- Respiratory care
- Monitor for hemorrhage
- Cardiac output reduction
- Discharge teaching

Complications

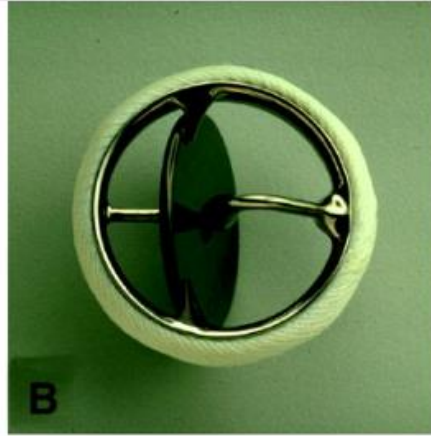
- Fluid & Electrolyte imbalances
- Hypotension
- Bleeding
- Cardiac tamponade
- Altered cerebral perfusion
- Hypothermia
- Hypertension
- Infection

Client Education

- Disease process
- Medications
- Anticoagulants
- Prophylactic antibiotics
- Rest and activity plan



A



B



C



D



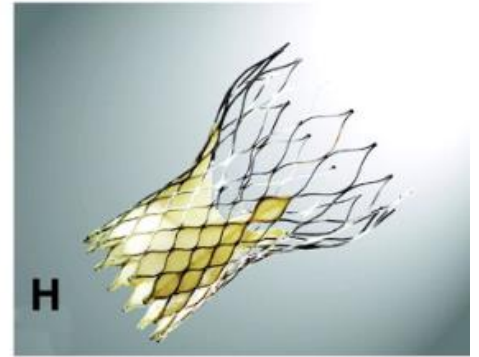
E



F



G



H



AHA Journals



Prosthetic Heart Valves |



