Case based scenario

- A 45 year old male came with worsening breathlessness since two weeks. It has been occurring on minimal exertion and he also has had episodes of awakening from sleep due to breathlessness. He has noticed palpitations on walking and it is associated with throbbing sensations. He has central chest discomfort on walking which is relieved on rest. There is no history of cough, fever, loss of consciousness or swelling of feet or body.
- He had recurrent episodes of joint pains in his adolescence associated with fever but had never been to a hospital. Since 4 years, he has noticed dyspnoea on heavy exertion. He had stopped manual labour 2 years ago but was able to carry on his daily routine activities. Since the past 4 months, he was not able to walk more than a kilometre without shortness of breath.
- **Examination revealed**: Pulse: 80/min, regular, high volume, collapsing. JVP- normal. BP: 160/20 mmHg. CVS: Apex is in left 6th ICS, anterior axillary line, hyperdynamic. No thrill. Auscultation: Aortic area- high pitched, blowing, early diastolic murmur of grade 3 radiating to the apex. Ejection systolic murmur grade 2 also heard. Other areas- normal sounds. R/S – normal. Abdomen- normal. CNS- Normal.

HISTORY

- **Chief complaints**:
  - Breathlessness since 2 weeks
  - Palpitations
  - Central chest discomfort

- **History of presenting illness:**
  - exacerbation of **breathlessness** since two weeks
  - Insidious in onset
  - Progressively increased to occur on minimal exertion.
  - He has also had episodes of awakening from sleep due to breathlessness
  - He has noticed **palpitations** which aggravates on on walking and is associated with throbbing sensations.
  - central **chest discomfort** on walking which is relieved on rest
  - No history of cough, fever, loss of consciousness or swelling of feet or body.

- **Past history:**
  - recurrent episodes of joint pains in his adolescence
  - associated with fever
  - Untreated

  - Since 4 years, he has noticed dyspnoea on heavy exertion.
  - He had stopped manual labour 2 years ago but was able to carry on his daily routine activities.
  - Since the past 4 months, he was not able to walk more than a kilometre without shortness of breath.

- **Provisional diagnosis:**

  Most likely a case of valvular heart disease due to rheumatic origin involving mitral or aortic valve.

EXAMINATION

General physical examination

- Patient is conscious, oriented to time place and person
- No pallor, icterus, cyanosis, clubbing, Lymphadenopathy or pedal edema.

Vitals:

- Pulse: Rate- 80/min, regular rhythm, high volume, collapsing
- JVP: normal
- Blood pressure: 160/20 mmHg , right arm in supine position.

- **CVS examination:**
- Apex : is in left 6th ICS, anterior axillary line, hyperdynamic.
- No thrill.
- Auscultation:
  - Aortic area- high pitched, blowing, early diastolic murmur of grade 3 radiating to the apex.
  - Ejection systolic murmur grade 2 also heard.
  - Other areas- normal sounds. R/S – normal. Abdomen- normal. CNS- Normal.

- **R/S examination**– normal.
- **Abdomen-** normal.
- **CNS-** Normal.

Differential Diagnosis

- Thyrotoxicosis
- Aortic regurgitation
- Severe anemia
- Thiamine deficiency
- Sympathetic overdrive
- left heart failure
- Mitral stenosis
- Mitral regurgitation.

INVESTIGATIONS

1.General investigations

Complete blood count , DLC

ESR, CRP

Thyroid function tests

Urinary thiamine excretion , blood thiamine levels

VDRL(for syphillitic aortitis)

ASO titres

Anti DNAse B

2. investigation to rule out structural and functional heart defects.

Echocardiography- to diagnose the valvular dysfunction

Chest Xray

ECG

Cardiac catheterization.

Diagnosis

- Chronic decompensated aortic regurgitation mostly Secondary to Rheumatic heart disease.

Management

- Asymptomatic patients with preserved ejection fraction are managed conservatively.
- Asymptomatic patients with reduced ejection fraction are managed surgically with aortic valve replacement.
- Symptomatic patients are managed with Aortic valve replacement.
- Management also depends on LV end ststolic and end diastolic diameter. (ESD> 50mm , EDD>65mm) are indication for aortic valve replacement.
- Patient undergoing any cardiac surgery is also considered for aortic valve replacement.

Thank you