

Aortic Stenosis:

- Aortic valve is made up of three leaflets left, right and posterior.
- Opens during systole $\rightarrow$ Down $\rightarrow$ Stenosis
- Closed during diastole $\rightarrow$ Down $\rightarrow$ Regurgitation
- Pathogenesis: Causes:
 - Stenosis over time $\rightarrow$ Late adulthood
 - Bicuspid valve $\rightarrow$ Early childhood
 - Chronic rheumatic fever

Pathogenesis:

- Normally aortic valve is $3-4 \text{ cm}^2$
- AS $\rightarrow < 1 \text{ cm}^2$
- Aortic Stenosis

$\downarrow$
Left ventricle pressure increased

$\downarrow$
Left ventricular hypertrophy

$\downarrow$
Left Heart failure (less blood to body)

- For Brain - Syncope
- Heart - Chest pain, Angina } during exercise

Clinical features:

Signs

- Angina
- Breathlessness
- Syncope
- Ejection systolic murmur
- Slow rising Carotid pulse
- Thrusting apex beat
- Gierendo diastolic murmur
- Like saw cutting wood

Investigation:

- ECG $\rightarrow$
- Chest X-ray $\rightarrow$
- Echo $\rightarrow$
- Cardiac catheterisation, Doppler

Treatment:

- valve replacement

Aortic Regurgitation

Causes:

- Congenital $\rightarrow$ Bicuspid valve
- Acquired $\rightarrow$ Aortic dilation due to Syphilis, Aneurysm, Marfan's syndrome, Ankylosing spondylitis, Rheumatic disease
- Infective Endocarditis
- Trauma

Pathogenesis:

Regurgitation

$\downarrow$
lv dilate

$\downarrow$
Cardiac output increases

$\downarrow$
Pulmonary artery

$\downarrow$
Left ventricular failure

Symptoms:

- Consciousness of one's own heart beat
- Often Asymptomatic
- Severe $\rightarrow$ Angina, Breathlessness

Signs:

- Increased pulse pressure

- Water hammering pulse (Corrigan's sign)

- Capillary pulse in nail bed - Quincke's sign

- Femoral murmur (Pistol shot) (Duroziez's sign)

- Healed nodding pulse (De Musset's sign)

Murmur:

- Early diastolic murmur (Blood from Aorta)
- Austin Flint murmur (Blood from LA to LV
(Mid diastolic murmur) due to flutter Mitral Valve).
- Systolic murmur (Increased stroke volume)

Investigation:

- ECG, chest radiograph, Echo, Cardiac Catheterization.

Carcinoid Syndrome

- It is a paraneoplastic syndrome which contains symptoms that are secondary to the Carcinoid syndrome.
- It includes flushing, diarrhea, less frequently emesis, heart failure, broncho constriction.
- It is mainly due to endogenous secretion of histamine and serotonin.
- It produces fibrotic lesions of the endocardium particularly right side of heart, resulting in tricuspid valve insufficiency and less pulmonary valve.