

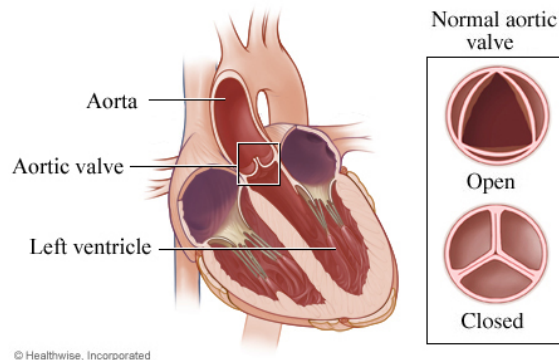
VALVULAR DISEASE NOTES

Valvular disease is damage or a defect to one or more of the heart valves.

AORTIC VALVE

The aortic valve is located between LVOT and the ascending aorta. Its function is to prevent the regurgitation of blood from the aorta back into the left ventricle. This allows for the appropriate flow of blood – into the systemic circulation.

It is comprised of 3 half moon shaped cusps and 3 commissures. It is a crown shaped collagenous annulus.



AO STENOSIS:

The obstruction of blood flow across the aortic valve from the left ventricle.

- Congenital - uni/bicuspid valve
- Degenerative – Progressive calcification of leaflets (elderly)
- Rheumatic – Progressive fibrosis of the leaflets

There is a greater prevalence of aortic stenosis in males and it affects 9% of the population.

There is a build up of pressure in the LV so there is compensatory LVH.

This reduces the compliance of the LV making it very stiff

Left end diastolic pressure (LEDP) leads to an increase in pressure in LA and LV

LA increases in size, this can lead to AF (risk of thromboembolism)

Leads to increased pressure in the lungs, RV, RA...

There is a reduction in cardiac output which leads to a reduction of LV perfusion. The LV needs more oxygen to overcome the high afterload but oxygen demands can not be met – leads to angina symptoms

Risk Factors:

- Hypertension
- Diabetes
- Smoking
- Hypercholesterolemia

Treatment:

Balloon valvuloplasty – Balloon inserted into heart and inflated to try and open the valve.

Can potentially leave patient with aortic regurgitation.

Valve replacement – bio-prosthetic/ mechanical

TAVI – transcatheter aortic valve implant, it is as an alternative to open heart surgery