

32. Aortic Valve Stenosis

Etiologies: Most common Calcific Senile Sclerotic degeneration may be due to chronic infective agent.
 Rheumatic (usually also involves the mitral valve)
 Congenital (e.g. bicuspid). Bicuspid stenotic valves often manifest in 3rd-4th decade.

Early Natural History:

Long Latent /Asymptomatic Period

Late Natural History:

- I. Angina: 50% mortality in 5 yrs,
- II. Syncope: 50% Mortality in 3 yrs
- III. Heart Failure: 50% Mortality in 2 yrs

Clinical Features-Triad

Angina: 35-50% of pts., even in absence of CAD.
 Due to increased O₂ demand of hypertrophy
 Syncope: 15% of pts. Outlet obstruction w/ exercise. Arrhythmias
 Heart Failure: 50% of pts. Due to systolic dysfunction.

Physical Exam

Pulses: Parvus et tardus (small and delayed)
 Reduced systolic pulse pressures. Delay between apical and carotid pulses.
 Auscultation: Normal S1, single S2 or paradoxically split; +S4. Murmur diminishes as cardiac output falls
 Late-peaking syst. murmur @ base, radiating to carotids.
 May radiate to and the sound loudest at the apex (Gallavardin effect).

Laboratory Work Up

- Echocardiogram
- Treadmill stress test in the Asymptomatic
- Lipid Profile

Medical Management (Slows progression)

Antibiotic prophylaxis
 Moderate AS should avoid competitive sports
 Rx-Low dose ACEI (some authors)
 Rx-Lipid Lowering (Benefit equivocal NEJM 2005)

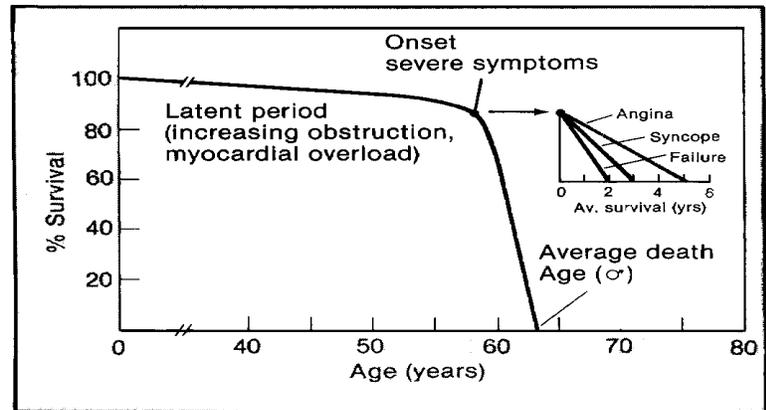
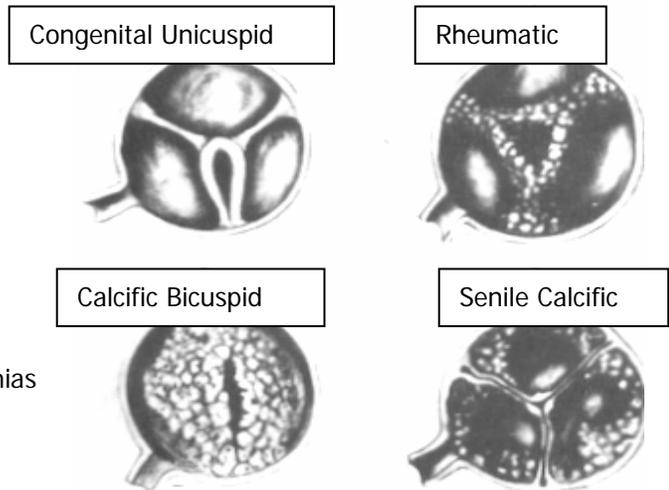
Pre-Op Coronary Angio men >35, women >45

Indications for Surgery

- I. SYMPTOMS, SYMPTOMS, SYMPTOM
- II. In absence of reported symptoms consider low level treadmill.
- III. Surgery Soon when Ao-CW >5 m/s, and AVA 0.7cm sq.
- IV. **"Surgery is the leading cause of death in asymptomatic aortic stenosis"**-Braunwald

Peri and Post Operative Results

- Operative Risk: 2 to 8%, 1 % if under 70 years.
- Symptoms, LV function and hypertrophy all show improvement
- Operative mortality is high as 10-25% with CHF
- Survival for Critical Aortic Stenosis: 3 years 87% in operated and 21% in un-operated patients
- Quality of life and cognitive functioning



	Valve Area meter/sec	Ao Velocity cm ²
Mild	>1.5	2.5
Moderate	>1.0	2.6-4.0
Severe	<0.8	>4.0
Critical	Symptoms	