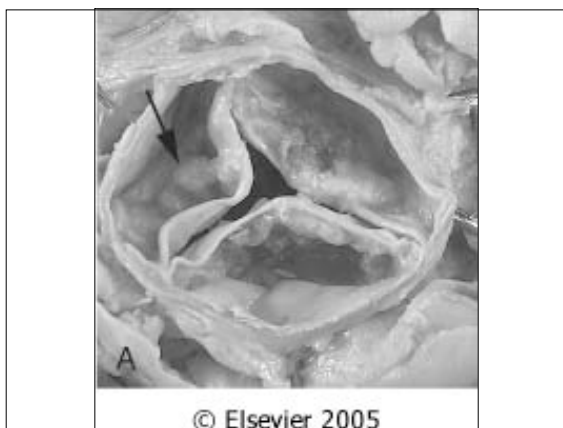
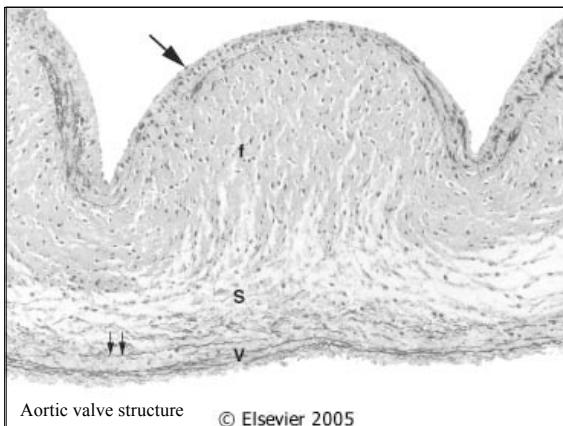
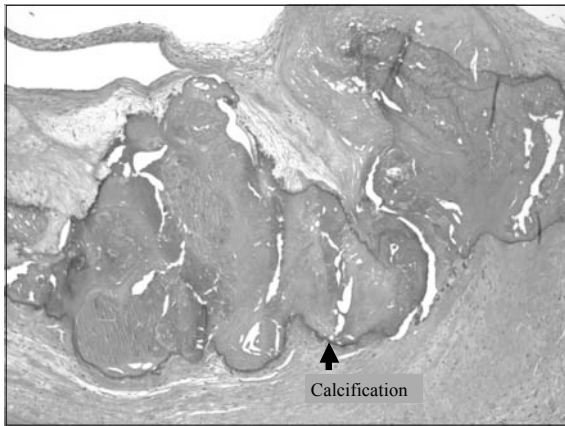
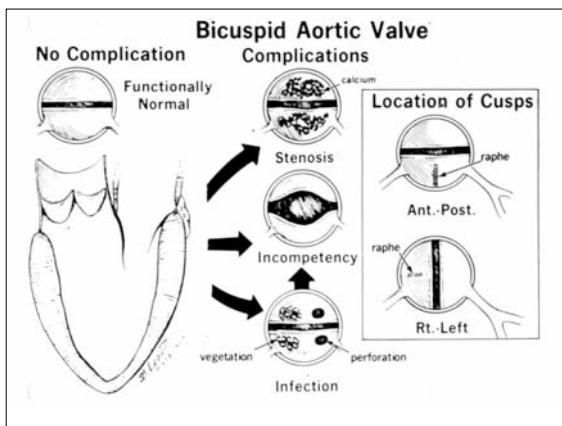


Aortic stenosis









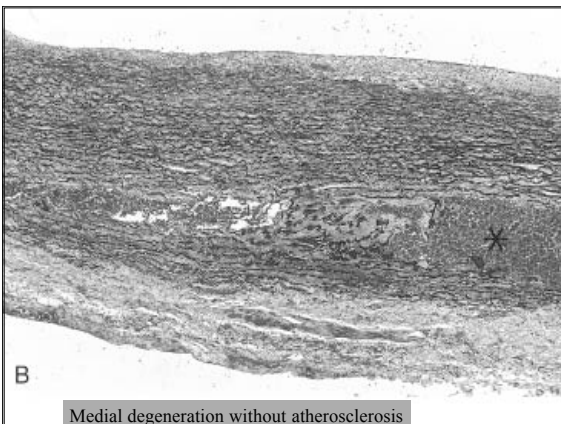
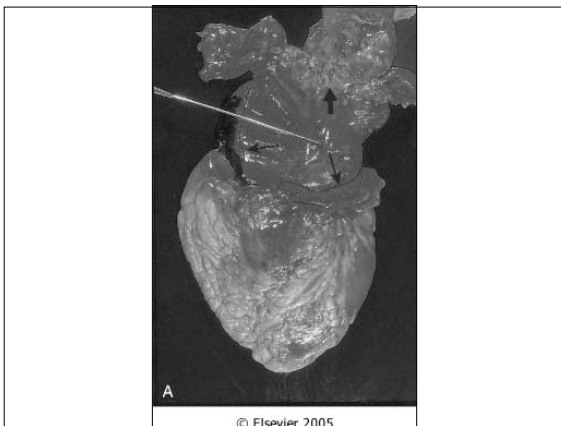
Aortic insufficiency- aortic dissection

- Hypertension
- Connective tissue disorders

Marfan's: 1 in 5000.

70-85% familial - Autosomal dominant

Fibrillin-1 (15q21) ~ 500 distinct mutations



Mitral stenosis

Acute Rheumatic Fever

Immunologically mediated, following 1-6 weeks after pharyngitis with Group A Streptococcus in 3% of those infected.

Antibodies against streptococcal M proteins cross-react with similar antigenic determinants in joints, heart, skin, CNS.

Acute Rheumatic Fever: Major manifestations (need 2 for diagnosis)

1. Migratory polyarthritis in 75%
2. Carditis in 50%
3. Sydenham's chorea in 10%(involuntary, rapid, purposeless movements – caudate)
4. Erythema marginatum of skin in 10% (brown/pink with pale center)
5. Subcutaneous nodules (0.5 – 2 cm; extensor surfaces, occur late)

Acute Rheumatic Fever

Minor Manifestations (need 2 plus 1

Major): Previous rheumatic fever, arthralgia, fever, increased ESR or CRP, prolonged P-R interval.

With 2 Major or Major/2Minor

Supportive evidence of streptococcal infection: ASO Ab, anti-DNAase B, positive throat culture

Excellent prognosis: 1% mortality - cardiac

Acute Rheumatic Fever

Pancarditis

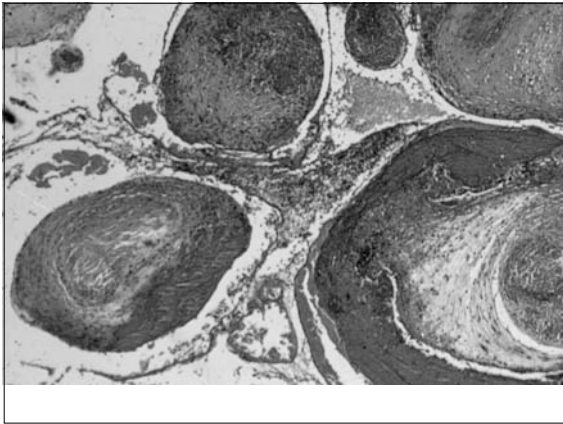
Pericarditis

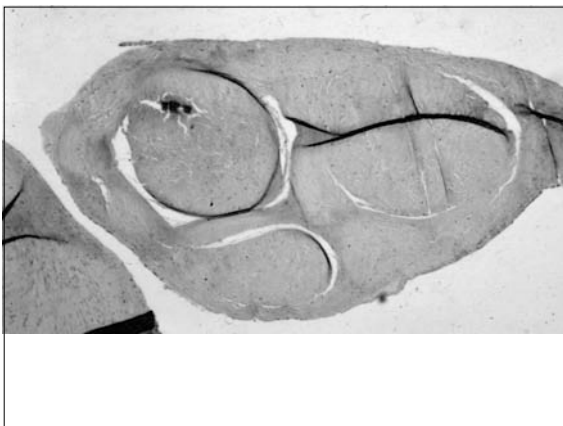
Myocarditis (Aschoff body)

Endocarditis with sterile vegetations

Aschoff body of acute rheumatic carditis: a cardiac granuloma







Chronic Rheumatic Heart Disease

Follows Acute Rheumatic Heart Disease by decades.

MV 65-70%

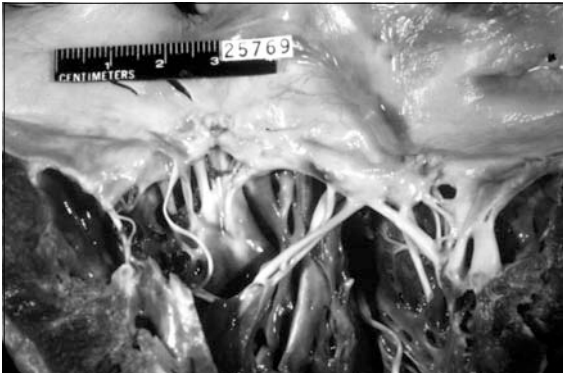
MV & AV 25%

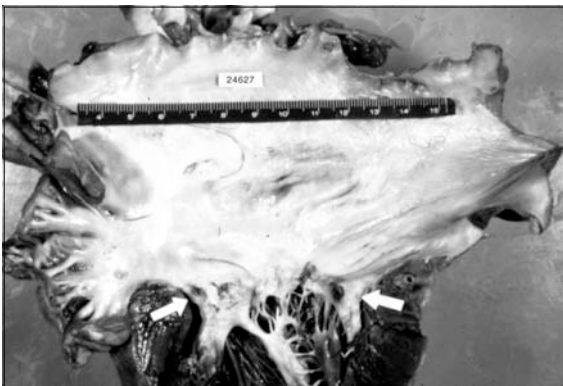
Mitral stenosis, aortic stenosis.

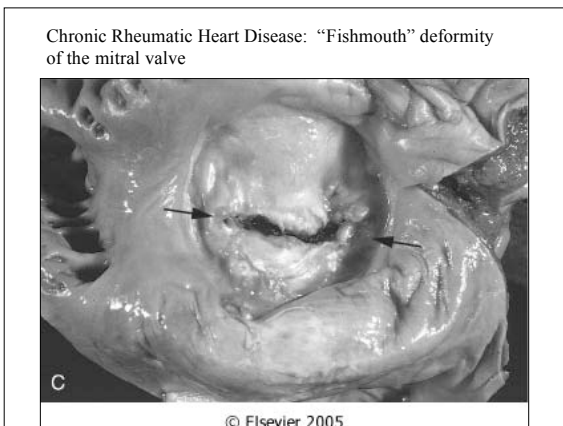
Arrhythmias (A. fib. with left atrial enlargement).

Heart failure.

Predisposed to infective endocarditis.

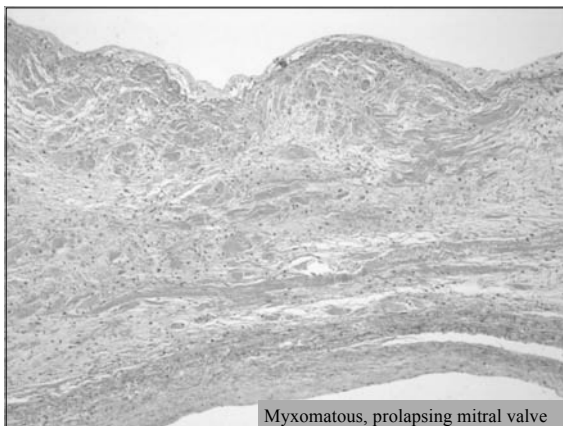
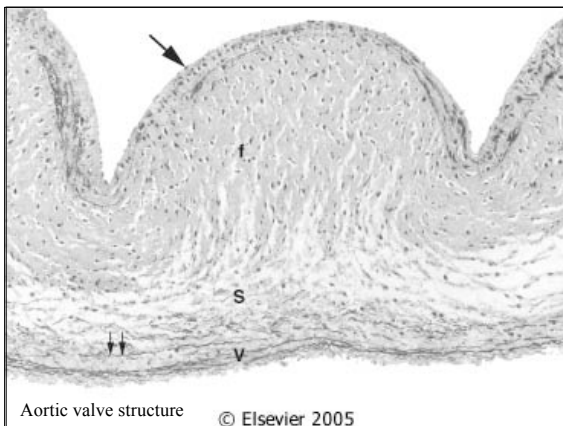


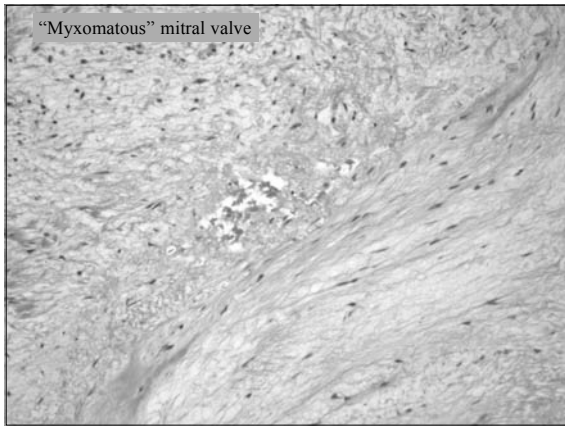


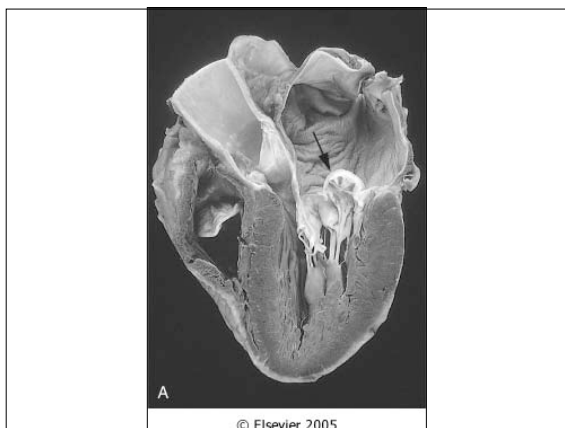


Mitral Valve Prolapse

- Most are asymptomatic
- Mid-systolic click
- Rarely: chest pain, dyspnea, fatigue, or psychiatric manifestations
- ~3% have complications:
 - Infective endocarditis
 - Mitral insufficiency
 - Thrombus formation with embolization
 - Arrhythmia/sudden death (unknown mechanism)

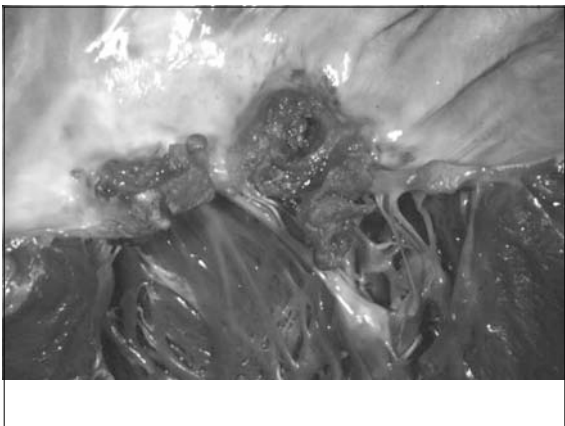


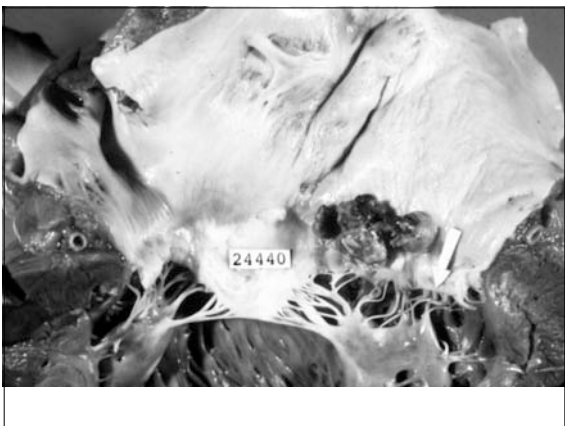




Endocarditis



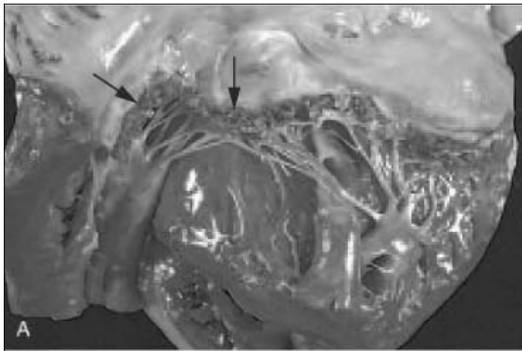




Non-bacterial thrombotic endocarditis (NBTE)

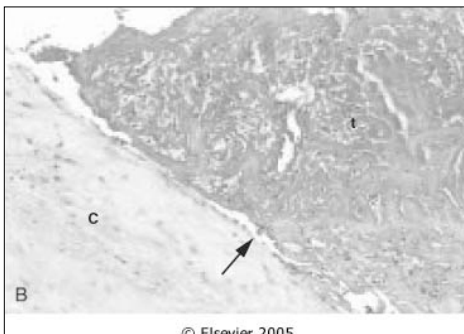
- Small (1-5 mm) sterile masses of fibrin on lines of closure.
- Hypercoagulable state: patients are often debilitated (“marantic” endocarditis) or may have malignancy (mucinous adenocarcinoma), renal failure, sepsis.
- May embolize to brain, kidney, heart.
- With bacteremia, may be converted to infectious endocarditis.

Non-bacterial thrombotic endocarditis (NBTE)

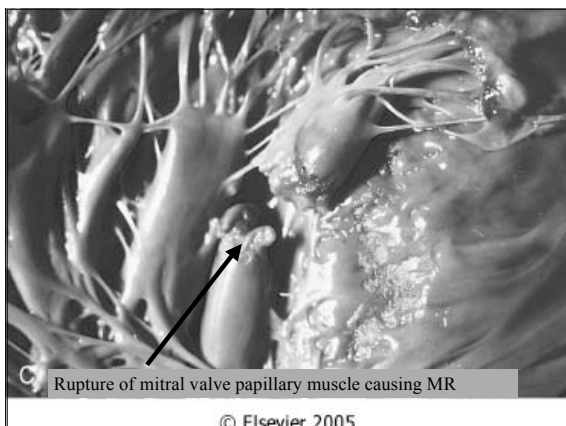


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NBTE: No inflammation or organism in thrombus

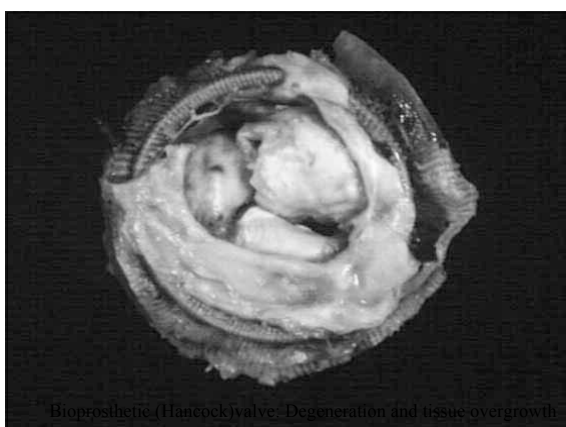


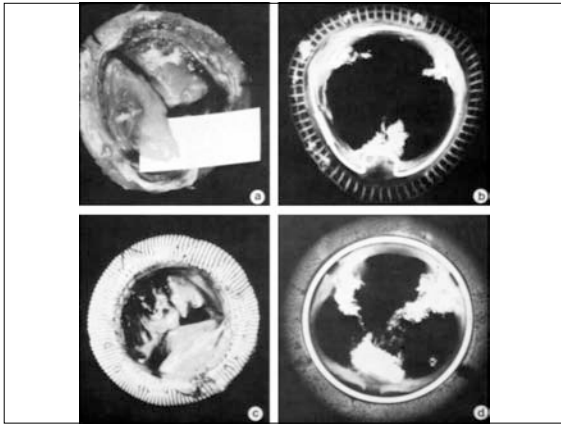
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Heart Valve Prostheses: Complications

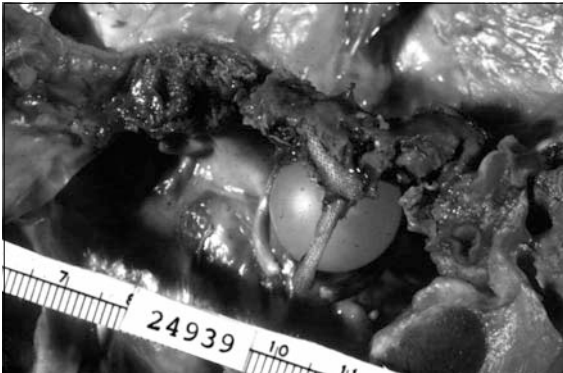
- Mechanical: component failure
 - Bioprotheses: degeneration with calcification
 - Both: Paravalvular leak, endocarditis.
- Thrombosis and tissue overgrowth are less common in bioprotheses than in mechanical valves.











Endocarditis of ball valve prosthesis (Starr-Edwards)
