

Team Medicine

Vascular heart
Diseases

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SYMPTOMS:

Dyspnea (grade 1 and progress to grad 4) in chronic cases.	Paroxysmal nocturnal dyspnea.	Orthopnea.
Palpitation.	Chest pain (aortic stenosis).	Dizziness (aortic stenosis).
Prefainting (aortic stenosis).	Syncope (aortic stenosis) due to low blood flow to brain.	Oedema (mitral stenosis).
Fatigue.	Cough (due to high pressure).	Ascites (mitral stenosis).
Hemoptysis (mitral stenosis) due to rupture of small bronchial vessels.	Symptoms of thromboembolic complication (mitral stenosis).	

- In acute cases, patients may suffer from Dyspnea, PND and orthopnea during the same day.
- The most common cause of right sided heart failure is left sided heart failure.

SIGNS:

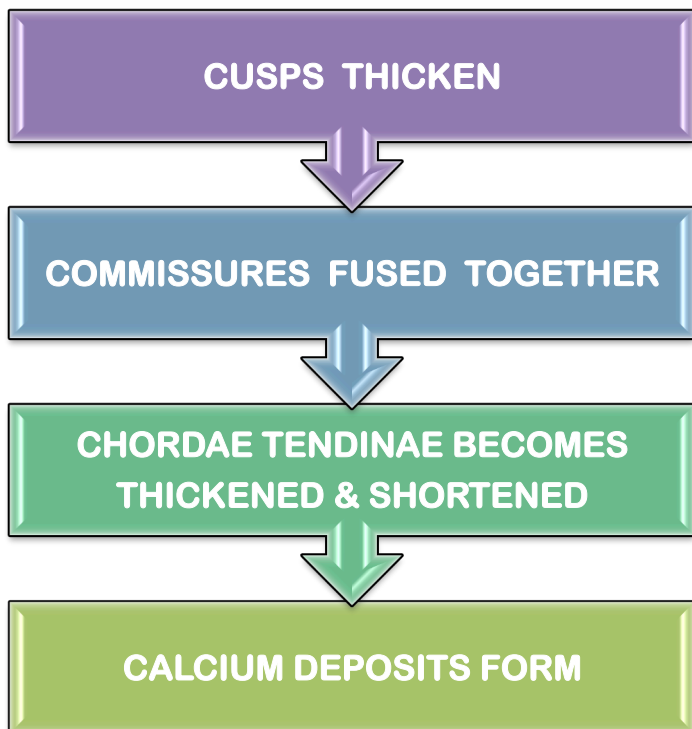
Abnormal look (mitral facies)	Abnormal pulse (Atrial fibrillation) commonest abnormal pulses seen in valvular heart diseass	Abnormal JVP
Apex beat abnormality	Sternal heave (Right ventricular hypertrophy) or parasternal heave	Thrill
Abnormal heart sound	MURMURS: Systolic or Diastolic.	

INVESTIGATION:

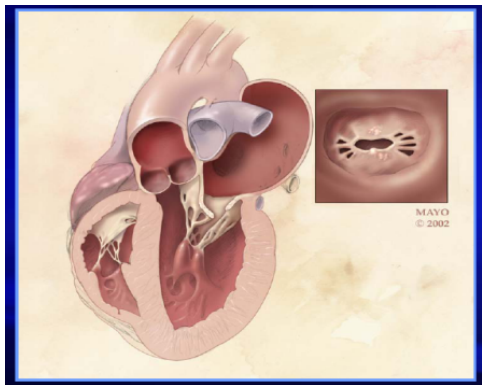
ECG
CXR (chest X - Ray)
MRI
Echo cardiology: M mode , 2D ,3D, 4D, TEE and . Doppler .
24 hours monitor for heart rhythm
Cardiac catheterization

01 Mitral stenosis (MS):

Rheumatic fever is the most common cause. (streptococcus infections)



Pregnant women are at high risk, Due to a 50% increase in plasma volume. (Kaplan)



Symptoms:

Increased LA pressure -Hallmark of MS. -Causes atrial fibrillation. -Causes pulmonary hypertension.	Dyspnea on exertion. Fatigue.
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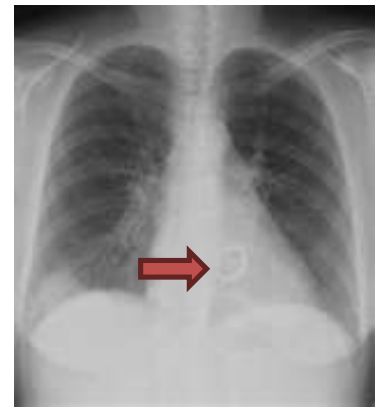
Examination:

Palpation RV lift	
Loud P2	Due to pulmonary hypertension.
Loud S1	Because the leaflets hit each other strongly.
Opening snap	Due to the sudden opening of mitral valve after S2 because of the high LA pressure.
Diastolic rumble	

- * We can't hear S3 because there is NO high flow.
- * The murmur gets louder at the end of diastole due to atrial contraction.

Investigations:

ECG : Large " P " wave.
X-Ray :
significant calcification.
Left atrial enlargement



Medical management:

Diuretics	For HTN.
Digitalis	To reduce heart beat by blocking AV node in atrial fibrillation.
Anticoagulant	To prevent strokes.
Antibiotics	To prevent inflammations. E.g. endocarditis.
Anti-arrythmics	

Intervention:

- Percutaneous Transvenous Mitral Commissurotomy (PTMC).
- Surgical Commissurotomy.
- Mitral Valve Replacement.

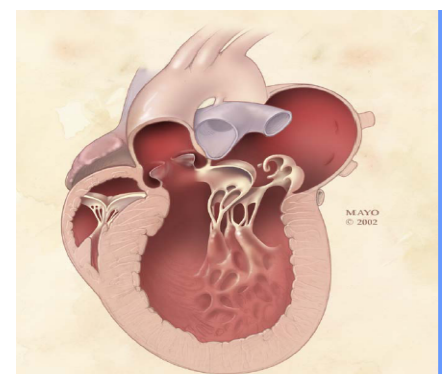
02 Mitral Regurgitation:

SIGNS: (just in chronic mitral regurgitation)

- Laterally displaced (forceful) diffuse apex-beat and a systolic thrill.
- Soft first heart sound.
- Pansystolic murmur.
- Prominent third heart sound.

Examination:

acute	chronic
Sitting upright	Apical impulse: Diffuse, tapping.
Rales	May have pulmonary findings.
Murmur	S3 ± palpable



Management:

- Surgical intervention by either Mitral valve repair or replacement
- ACE inhibitors to reduce the afterload (arterial blood pressure), diuretics and possibly anticoagulants.

03 Mitral Valve Prolapse:

the most common valve disease In the west.

Pathology:

- Large mitral valve leaflets, an enlarged mitral annulus, abnormally long chordae or disordered papillary muscle contraction.
- Demonstrate myxomatous degeneration of the mitral valve leaflet.
- Associated with Marfan's syndrome, thyrotoxicosis, rheumatic or ischaemic heart disease.

Symptoms:

Atypical chest pain is the most common symptom.

Palpitations.

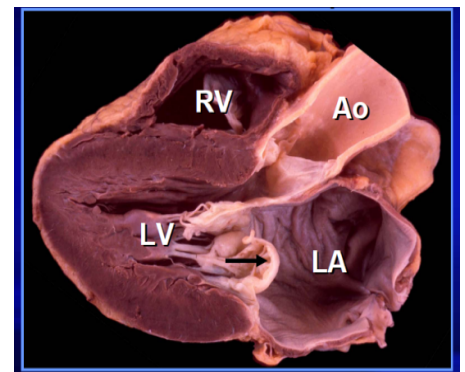
Sudden cardiac death.

Signs:

The most common sign is a mid-systolic click.

Treatment:

- Beta-blockers.
- Anticoagulation is advised to prevent thromboembolism.

**04 Aortic stenosis:****Etiology:**

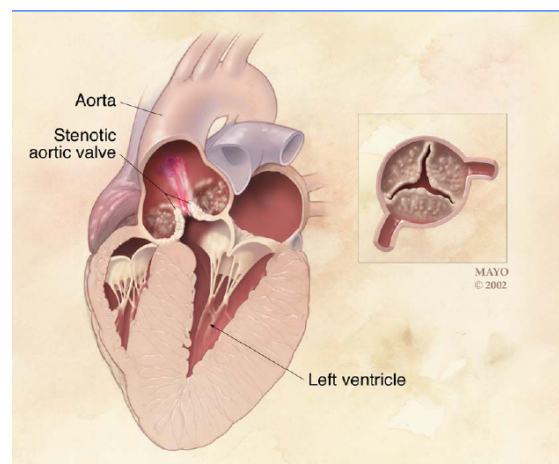
***Degenerative-calcification:**

- Most common.
- > 70 years.

***Bicuspid:**

- 1.8% population
- Sx present \leq 60 years

***Rhuematic**



Examination:

ECG : large tall " R " wave

With old age, Ca leaves the bones to the aortic.
(Kaplan)

Treatment:

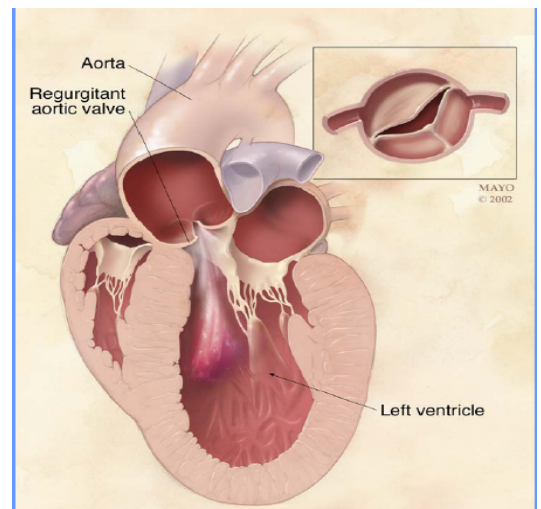
-Aortic valve replacement.

_Asymptomatic patients should be under regular review for assessment of symptoms and echocardiography

05 Aortic regurgitation:

Etiology :

Valvular	Aortic root
Chronic : Rheumatic, Bicuspid	Chronic: HTN, marfen, Aortitis
Acute : endocarditis	Acute: Dissection



Treatment:

Aortic valve replacement.

Aortic stenosis		Aortic regurgitation
<p><i>Clinical memo</i></p> <p>Aortic stenosis Pulse: Sinus rhythm, low volume, slow rising Aortic area: Systolic thrill Apex: Not displaced, sustained Sounds: Ejection click, soft A2, S4 Murmurs: Systolic, low pitched, ejection, radiating to carotids</p>	<p>Murmurs heard best with patient leaning forwards and breath held in expiration</p>	<p><i>Clinical memo</i></p> <p>Aortic regurgitation Pulse: Sinus rhythm, large volume, collapsing Blood pressure: Wide pulse pressure Apex: Displaced, diffuse, forceful Murmurs: (1) High pitched, early diastolic at LSE (2) Ejection systolic at base and into neck (high flow) (3) Mid-diastolic rumble at apex (Austin Flint) not shown</p>

Summary:

- 1- Any valve can be affected. By either stenosis 'narrowing' or regurgitation 'dilation'.
- 2- Rheumatic fever is the most common cause of mitral stenosis.
- 3- Dyspnea grads from 1 to 4 in chronic cases.
- 4- Initial test is ECHO. (Kaplan)
- 5- The disease could be sudden as in acute cases, or it could take time and develop through a long history.

Also you can watch this video:

<http://www.youtube.com/watch?v=zaQsdWKY9S4>

	symptoms	Sign	investigations	treatment
MS	-Pulmonary hypertension -Hallmark of MS -Fatigue -Dyspnea -Atrial fibrillation hemoptysis	-Loud S1 -Loud p2 -Opening snap -Diastolic rumble	ECG: Large "P" wave. CXR: LA enlargement ECHO: Narrow orifice. -Calcified valve	Diuretics Digitalis Anticoagulant Antibiotics Antiarrhythmic Surgery
MR	-PND -Orthopnea -Dyspnea on exertion -Pulmonary edema	-Holosystolic murmur - Soft s1	CXR: Cardiomegaly Dilated LV ECHO: Dilated LA&LV	ACE inhibitors Diuretics Anticoagulants surgery
MVP	Palpitations Atypical chest pain	mid-systolic click		Beta-blockers Anticoagulation
AS	Angina Syncope Heart failure	-Crescendo-decrescendo murmur -Radiates to carotid artery -Soft s2	CXR: Calcified aortic valve ECG: Tall R wave ECHO: LVH Thickened aortic valve Dilated aortic root	Aortic valve replacement
AR	-PND -Orthopnea -Dyspnea on exertion palpitations	-Wide pulse pressure -Austin flint murmur -Water hammer pulse	CXR: LVH, dilated aorta ECG : LVH	Aortic valve replacement