

Valvular Heart Disease

Etiology :

- 1. Rheumatic heart disease.**
- 2. Congenital.**
- 3. Inflammatory (infective endocarditis , myocarditis).**
- 4. Ischemic heart disease.**
- 5. Degenerative.**
- 6. Collagen vascular disease (Ehlers-Danlos syndromes , and Marfan syndrome, , SLE).**
- 7. Iatrogenic (after balloon valvoplasty).**

VHD

VHD, could be:

1. Isolated (MS, MR, AOS, AOR, PS, PR, TS, TR).
2. Compined (2 lesions in the same valve –ex compined MV disease , means MS + MR).
3. Mixed valve lesion (2 lesions in defferent valves – ex MS and AOS , or ms and AOR).

Mitral stenosis

Etiology:

1. RhHD : most common cause.
2. Congenital : lutebacher's syndrome (ASD , MS).
3. Degenerative.
4. Inflammatory.

Ms (clinical picture)

1. Left ventricular failure (LVF) : dyspnea with all grades.
2. Palpitation (AF, atrial flutter, extrasystoles).
3. Recurrent chest infections (pneumonia, bronchitis).
4. Hemoptysis (congestion, witer bronchitis, pul apoplexy).
5. Right sided HF (CHF).

ms-physical exam

1. Mitral face (malar flush)

2. Precordial exam :

A. Apex beat – tapping (forceful).

B. 1st HS accentuated..

C. Murmur - mid. Diastolic, with presystolic accentuation. Best heard by the Bell.(Rumbling character disappear in AF).

D. Added sounds – opening snap(closer to S2 , more severe stenosis,
Disappear in severely calcified unpliant valve.

MS - diagnosis

1. ECG : P mitrale. AF, RVH.

2.CXR: mitralization (absent cardiac waist), RVH, double contour, congestion,b.Lines,hemosiderosis.

3. Echo.Doppler (diagnostic).

2d – calcified, thickened, doming, LA enlargement.

M .Mode - absent EF slope.

Doppler(cw, pw) PPG, MPG, MVA.

MS - mangement

1. Medical treatment(In symptomatic pts)- diuretics,b. Blockers, warfarin in AF,(INR 2-3).

Indication for surgery:

- A. Severe symptos, despite treatment.
- B. Other cardiac surgery.
- C. PPG > 20 mmhg.
- D. MPG> 12mmhg.
- E. MVA< 1sq cm.

MS- Surgical treatment

I. (mitral valve replacement).

1. In combined MV (MS, MR).

2. In severely calcified unpliant MV (surgical score > 8).

II. Mitral valvoplasty (mitral valve ballooning , or open commissurotomy).

Used in isolated MS, pliant valve.

Firstly – perform TEE, if atrial (appendage) thrombus is present, needs open commissurotomy, if no needs mitral valve ballooning.

mitral regurge - MR

Etiology:

- 1. Congenital : MVP – most common.**
- 2. Rheumatic heart disease : Compined.**
- 3. Ischemic : papillary muscle dysfunction.**
- 4. Infflamatory : infective endocarditis, myocarditis.**
- 5. Collagen vascular ddisease : SLE & Marfan syndrome .**
- 6. 2dry to LV dilatation : DCM.**
- 7. Iatrogenic : after MV valvoplasty in MS.**

MR- clinical findings.

1. Apex beat: shifted downward, localised, heave unsustained.
2. 1st hs : muffled.
3. Murmur : pansystolic, radiating to axila , with thrill.
4. Added sounds : 3d hs.

MR – diagnosis.

1. ECG: P.Mitrale, LVH , AF.

2. CXRR : as MS + LVH.

3. Echo.Doppler :

A. 2d . dilated LA , LV.

B. M mode . dimensions of LV , EF.

C. Doppler .(esp color doppler – asses severity , jet).

MR-treatment

- I. Medical treatment in symptomatic patient.
- II. Indications for surgery (MVR):
 1. Severe symptoms.
 2. Other cardiac surgery.
 3. LV dilatation (LVDS > 45 mm).
 4. LVF (EF < 55%).

Aortic stenosis

Etiology:

1. Degenerative : lenegre-lev syndrome = lev's disease
2. Congenital causes :
 - A. Subvalvular . (Discrete subaortic stenosis)
 - B. Valvular (Bicusbid, associated with edwards S).
 - C. Supravalvular.
3. Rheumatic (with mitral valve lesions).
4. Infective (inf endocarditis).



Aortic stenosis - symptoms

1. Angina.
2. Dyspnea - Left ventricular failure.
3. Dizziness , up to syncope.

Aortic stenosis - Signs

1. Apex beat : shifted downward, outward, localized, Heave sustained, with thrill.
2. Hs : 2d hs muffled.
3. Murmur: ejection systolic, crescendo, decrescendo, at 2d right space, radiating to carotids, lying forward.

Aortic stenosis - Diagnosis

1. ECG : LVH, arrhythmia.
2. CXR : cardiomegaly, LVH, calcification, congestion.
3. Echo doppler:
LVH, calcified, thick AOV, PPG, AOV area.

Aortic stenosis - Management

I. Medical treatment in symptomatic pts (Diuretics, B.Blockers)

Avoid digoxin, vasodilators.

II . indications for surgery:

1. Severe symptoms.
2. Other c surgery.
3. Ppg > 70 mmhg.
4. Mpg > 32 mmhg.
5. Aov area < 0.8 cm.

Aortic Regurge (AOR).

Etiology:

1. Collagen vascular disease : Ehlers-Danlos syndromes (EDS) and Marfan syndrome (MFS).
2. Rheumatic heart disease.
3. Inflammatory (inf endocarditis, syphilis).
4. Congenital (bicuspid AOV).
5. Others : HTN, AOR aneurysm.

AOR signs.

1. De Musset's sign – head nodding with each heart beat
2. Corrigan pulse : visible carotid pulsations.
3. Quincke's sign – capillary pulsation in the nail beds
4. Water hammer pulse.
5. Müller's sign : uvula pulsations.
6. Pistol shot.
7. Duroziez's sign – a to-and-fro murmur heard when the femoral artery is auscultated with pressure applied distally (if found, it is a sign of severe aortic regurgitation)
8. Hill's sign.

AOR – precordial exam.

1. Apex beat : shifted downward, outward, localized, heave non sustained.
2. Murmur: early diastolic, over 1st AO area, radiating to 2d AO area, apex, lying forward, holding respiration , after forcefull expiration.

AOR management.

I. Medical Treatment , in symptomatic pts(diuretics, B. B, amlodipine).

Ii.Indications for surgery:

1. Severe symptoms.
2. Other c surgery.
3. LV dilatation (LVDS > 55 mm).
4. LVF (EF < 55%).

Pulmonary stenosis (PS).

Etiology

1. Congenital (subvalv, valvular, supravallvular) – part of fallot tetralogy.
2. Rheumatic heart disease – Least one .

Symptoms and signs, management.

1. Dyspnea.
2. failure to thrive
3. Recurrent chest infections (pneumonia, bronchitis).
4. Ej systolic murmur 2d lt space, cr decrescendo, without radiation, increasing with inspiration.

Indications for surgery:

5. Sever symptoms.
6. PPG > 70 mmhg.

Tricuspid Regurgitation

1. Mostly 2dry to Lt sided lesions (MS, MR , AOS , AOR).
2. Congenital (ebstein anomaly).
3. Rheumatic heart disease.
4. Inflammatory (inf endocarditis - addiction)

pansystolic murmur , over tric area. Increases
With Inspiraion (carvallo's sign).