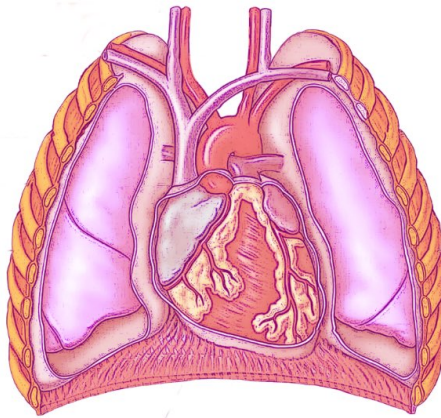




Internal Medicine



Topic : Physical Examination (Round)
Done by : Johainah Taha

Pericardium Physical Examination

① Introduction

- * Introduce yourself → Ask about patient name → Take consent and explain the exam → Hygiene → Chaperon and privacy
- * Adjust Bed angle 45° → expose patient (he will be exposed)
↳ umbilicus and above

② Inspection

1. Deformities → Can displace the heart, alter normal heart sounds, and impulse location.

↓
Pectus excavatum
+
Pectus carinatum
↓
أشكال

2. Scars: a- Midline sternotomy scar → history of cardiac surgery (valve replacement, CABG)

b- lateral thoractomy scar → pericardial window procedure or Cardiac Surgery involving pericardium.

c- mid axillary scar → indicate intervention for recurrent effusion or tamponade.

3. Gynecomastia: uses of drugs like Digoxin, spironolactone for heart failure.

4. Symmetry: asymmetrical movement indicates lung or cardiac pathology

③ Palpation

apex beat

* Location: 5th intercostal space, midclavicular.

* how? Fingertips.

* Absent apex beat:-

1. Obesity
2. Effusion
3. Heart failure
4. Pneumothorax
5. Located under the rib.

Heaves

* how? heel of hands on the left and right

sternal border.

* Findings?

- Left parasternal heave → RVH
Apical heave → LVH

Thrills

* how? use the palm and fingers to palpate

over key auscultatory areas

↳ aortic, tricuspid, pulmonary, Mitral

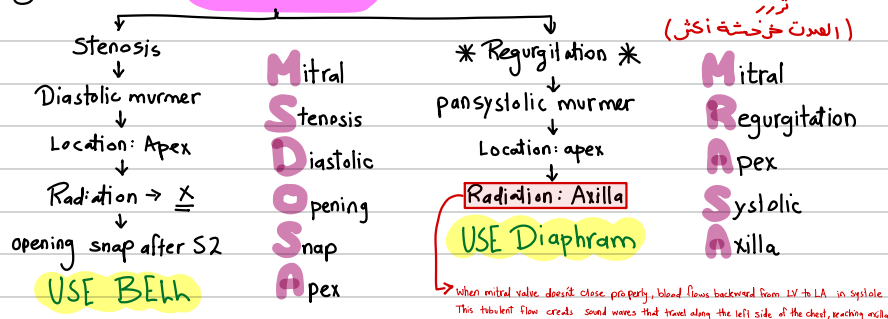
④ Auscultation

* we use diaphragm (S1, S2, most murmurs) and Bell (S3, S4, mitral stenosis)

* key areas for auscultation:-

1. Aortic area → 2nd, right intercostal space, sternal edge.
2. Pulmonic area → 2nd, left intercostal space, sternal edge.
3. Tricuspid area → 4th, left intercostal space, sternal edge.
4. Mitral area → 5th, left intercostal space, midclavicular line.
5. Erb's point → 3rd, left intercostal space, sternal edge, Ask the patient to sit and lean forward.
you could listen systolic murmurs, diastolic murmurs, pericardial rub.

① Start with Mitral Valve



* مواضع الفيزيكال بالإمتحانات :-

DVT, Abdomen, Respiratory, Pericardium

* ملاحظات علامات الأورسكي :-

Finding ← 1.5 mark

Confident, Look ← 2 marks

investigation, xDD ← 3 marks

* ملاحظات على ال Pacemakers :-

← ينظره على ال hand-dominant يمين

يكون مريح أكثر للعين

← Click ← auscultation

* The murmurs are palpable at Grade IV and above. MCQ

* نصيحة الدكتور :-

- ابدأ من Mitral وخمس كل شي متتلف

فيه لأن معظم العلامات عليه.

- أول شي اسبح بال diaphragm بعدها

Bell بعدها radiation

* مهم للامتحان :-

1 - تدفئة اليد والساعة

2 - مثل تميل انك مع تفتح الساعة

3 - خلي ايرك على radial pulse

* how to know that the Murmur is diastolic or systolic?

Put your hand on radial pulse not carotid.

↳ unless you're sure that the patient doesn't have
 ↳ Arrhythmia.
 ↳ Calcification.

② Then **Tricuspid valve** → ③ Then **Pulmonary valve**.

④ Finally **Aortic valve**

↓
Stenosis

↓
Regurgitation

Location: 2nd IC space, next to sternum

↓
midSystolic ejection murmur (increase then decrease in intensity)

↓
Radiation: carotid artery

↓
use diaphragm

Aortic
Stenosis
Carotid
Diaphragm
Ejection
Systolic

زي اسفلتاك ما
ينطرح

تزيكات الامقان

* غالباً ال Case حكون Normal.

* ولكن عالة كانت Abnormal حنسمع! ما :-

• **Aortic stenosis** ← بكون شخه كير مابعر وغالباً بتمير سبي ال Calcification.

• **Mitral regurgitation** ← بتكون امرأة شابة، غالباً بسبب rheumatoid fever.

* ممكن الدكتور يطلب منك :
 عمل examination لفحالت ثابتة تساعد على التشخيص :

Chest → for crackles → heart failure.

Lower limbs → for edema → heart failure

Hands → Clubbing → Congenital heart disease (for paediatrics) (نموذج منجب)
 → Janeway lesions and Osler's node → infective endocarditis.
 Painless + red Painful + raised

Face → Facial edema → Heart failure, pericardial effusion.
 → Redness (rash) → #1: SLE #2: idiopathic #3: Mitral stenosis (Malar flush)



Eyes → Pallor conjunctiva → heart failure, hypoxia and pericardial effusion.
 → Corneal arcus (greyish-white ring around the cornea) → hyperlipidemia
 → Xanthelasma → hyperlipidemia.

* سؤال آخر حسبنا له الدكتور : شو هي ال investigations الي خنطها ؟ وبدنا نكون محضرين جواب لسؤال بيش ؟

* Images :-

1. Echocardiography: First line test to assess for pericardial effusion, tamponade and pericardial thickening.
2. Chest X-ray: to see cardiomegaly (water bottle) and Pulmonary congestion → for heart failure
3. Cardiac MRI
4. CT scan of chest

* ECG

* Laboratory tests

1. Cardiac biomarkers.
2. CRP, ESR
3. CBC → to identify the underlying cause of pericardial disease :
 1. Leukocytosis → chronic inflammation or infection is the cause.
 2. Anemia → chronic inflammatory disease, malignancy-related pericardial effusion, SLE
 3. Thrombocytopenia → Lupus pericarditis
 4. Polycythemia (↑hematocrit) → hypoxia

Notes * the hyperdynamic circulatory states are seen in:-

1. Pregnancy
2. Thyrotoxicosis
3. Anemia

↳ in these the CO increases → ↑stroke volume + ↑HR.

↳ Physiologic murmur (systolic)

↳ But their grade is IV and below.

* Systolic murmurs can be normal or abnormal

But Diastolic murmurs are always abnormal

NOTES:

Feature	S3 (Third Heart Sound)	S4 (Fourth Heart Sound)
Timing	Early diastole (after S2, during rapid ventricular filling)	Late diastole (before S1, during atrial contraction)
Cause	Rapid filling of a dilated ventricle (volume overload)	Atrial contraction against a stiff, non-compliant ventricle (pressure overload)
Associated Conditions	- Heart failure (HFrEF) - Volume overload (mitral/aortic regurgitation) - Normal in young adults, athletes, pregnancy	- Left ventricular hypertrophy (LVH) - Hypertension - Aortic stenosis - Hypertrophic cardiomyopathy (HCM) - Ischemic heart disease
Best Heard At	Apex (mitral area, left lateral decubitus position)	Apex (mitral area, left lateral decubitus position)
Pitch & Quality	Low-pitched, soft "ventricular gallop"	Low-pitched, soft "atrial gallop"
Auscultation Tool	Bell of the stethoscope	Bell of the stethoscope
Effect of Exercise	Louder with increased cardiac output	Louder with increased atrial contraction
Normal vs. Pathologic	Can be normal in young people and athletes	Always pathologic in adults

Heart Sound	Atrial Fibrillation (AF)	Amyloidosis	Heart Block
S1 (First Heart Sound)	Variable intensity due to irregular ventricular filling	Soft or diminished due to myocardial stiffness	- First-degree block: Soft S1 (due to prolonged PR interval) - Second-degree block: Occasionally missing S1 (dropped beats) - Third-degree block: Varies due to AV dissociation
S2 (Second Heart Sound)	May be normal or irregularly split due to variable RR intervals	Normal or paradoxically split if there is conduction delay	- First-degree block: Normal - Second-degree block: Occasionally missing S2 - Third-degree block: May be paradoxically split
S3 (Third Heart Sound)	May be present due to ventricular dysfunction or heart failure	Often present due to restrictive cardiomyopathy	May be heard in cases of heart failure associated with bradycardia
S4 (Fourth Heart Sound)	Absent (due to loss of atrial contraction)	Absent in advanced disease (due to atrial failure)	Present in high-grade blocks if the atria can still contract against a stiff ventricle

له من أهم الأمور الي بتساعدنا نقارن بينهم S2 و S4

Heart Block Type	Heart	ECG Findings	Abnormal Sounds	Treatment
First-Degree (Primary)	Normal function, slight delay	Prolonged PR interval (greater than 300 ms)	Soft S1 (due to delay)	No specific treatment needed, monitor for progression
Second-Degree (Secondary)	Ventricular dysfunction possible	Type I (Wenckebach): Progressively longer PR until drop; Type II (Mobitz II): Fixed PR with dropped beats	Normal or soft S1, Split S2, possible S3 or S4	Type I: Usually no treatment needed. Type II: May require pacemaker if symptomatic
Third-Degree (Tertiary)	Complete dissociation of atria and ventricles	No correlation between atrial and ventricular rhythms, QRS complexes may be wide	Variable S1, Paradoxical S2	Pacemaker required to restore normal rhythm