



Lecture.3 Clinical manifestations of Cardiovascular diseases

Cardinal Symptoms

- Chest pain
- Palpitation
- Breathlessness (Dyspnea)
- Ankle swelling (Peripheral oedema)
- Syncope
- Cough and Hemoptysis
- Cardiac arrest and sudden cardiac death
- Abnormal heart sounds and murmurs

Chest Pain

Chest pain is pain or discomfort in the chest, typically the front of the chest. It may be described as sharp, dull, pressure, heaviness or squeezing. Associated symptoms may include pain in the shoulder, arm, upper abdomen, or jaw, along with nausea, sweating, or shortness of breath. It can be divided into heart-related and non-heart-related pain.

Regarding cardiac chest pain it may be:

- *Chest pain on exertion (Stable angina)*
- *Severe prolonged chest pain (Acute coronary syndromes).*

Other cardiac causes include Pericarditis.

non-cardiac cause like disorders of intrathoracic structures

(aorta, pleura, mediastinum, esophagus), diaphragm, thoracic wall, skin, cervical spine, breasts, subdiaphragmatic organs stomach, duodenum, pancreas and gallbladder or could be functional or factitious.

Breathlessness(dyspnoea)

Abnormally uncomfortable awareness of breathing regarded as abnormal only when it occurs at rest or at level of physical activity not expected to cause it, associated with diseases of:

- heart
- lungs
- chest wall
- respiratory muscles
- also associated with anxiety





Causes of cardiac dyspnea:

- Acute left heart failure
- Chronic heart failure
- Arrhythmia
- Angina equivalent

Exertional dyspnoea

Comes on during exertion and subsides with rest.

Commonly due to HF or lung disease COPD

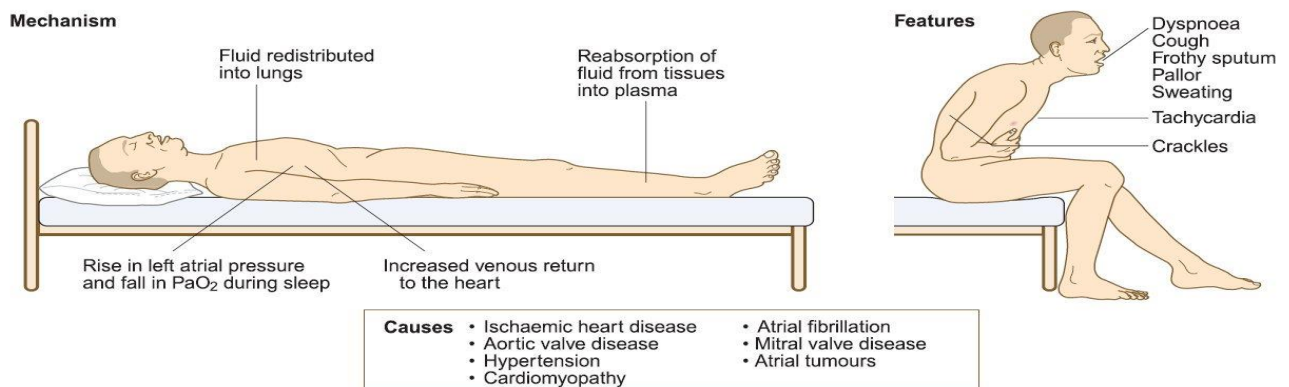
Orthopnoea

breathlessness on lying flat

A symptom of left ventricular failure, due to redistribution of fluid from the lower extremities to the lungs

Paroxysmal Nocturnal dyspnoea

A variant of orthopnoea, patient awakes from sleep severely breathless with persistent cough, may have white frothy sputum, it is a manifestation of left ventricular failure.



Paroxysmal nocturnal dyspnoea.

Source : Macleods Clinical Examination 13th Ed (2013)

Palpitations

- Unpleasant awareness of the forceful or rapid beating of the heart



Tachycardia, atrial fibrillation, ectopic beats, augmented stroke volume due to valvular regurgitation, sudden onset of bradycardia...



How to evaluate palpitation

- *Is the palpitation continuous or intermittent?*
- *Is the heart beat regular or irregular?*
- *What is the approximate heart rate?*
- *Do symptoms occur in discrete attacks?*
- *Is the onset abrupt? How do attacks terminate?*
- *Are there any associated symptoms?*
 - Chest pain, lightheadedness, polyuria (a feature of supraventricular tachycardia).
- *Are there any precipitating factors, such as exercise or alcohol excess?*
- *Is there a history of structural heart disease, such as coronary artery disease or valvular heart disease?*

Investigation

- The diagnosis should be confirmed by an ECG recording during an episode.
- Using an ambulatory ECG monitor.
- Other investigations include:
 - Echocardiography
 - Chest X ray
 - Thyroid function tests.

Ankle swelling (Peripheral odema)

Is the build-up of fluid in the body's tissue.

Peripheral Oedema is a feature of chronic heart failure due to excessive salt and water retention .

In ambulant patients found in the ankles, legs, thighs and lower abdomen. While in patients who are recumbent , it is found over the sacrum associated with other features of heart failure .

Usually pitting except if it has been long standing.





Causes of oedema

- Bilateral oedema: Heart failure, kidney disease (nephrotic syndrome, glomerulonephritis), liver disease (liver cirrhosis), idiopathic oedema, pregnancy, continuous sitting with the legs bent (elderly patients who sit for prolonged periods and paralysed patients), hypoalbuminemia, severe hypothyroidism. Drugs retaining sodium (fludrocortisone, NSAID) increasing capillary permeability (nifedipine).
- Unilateral oedema: Deep vein thrombosis(DVT), lymphoedema, cellulitis ruptured Baker's cyst.

Differential diagnosis of unilateral leg swelling

- DVT
- Lymphatic obstruction
- Cellulitis



Syncope

Definition:

Sudden temporary loss of consciousness with spontaneous recovery commonly due to reduced brain perfusion.

Cardiac causes:

Cardiac conditions to consider in patients with suspected syncope include:

Brady dysrhythmias, Tachydysrhythmias

Cardiac myxoma

Aortic stenosis

Noncardiac causes:

Vasovagal syncope

Carotid sinus syncope

Cough (posttussive) syncope

Micturition syncope

Postprandial syncope



Cyanosis

Defined as a bluish discoloration, especially of the skin and mucous membranes, due to excessive concentration of deoxyhemoglobin in the blood .

Cyanosis

- Both: a symptom and a physical sign
- Results from an increased quantity of reduced hemoglobin



Central cyanosis-decreased arterial oxygen saturation due to right-to-left shunting of blood or impaired pulmonary function

Peripheral Cyanosis



Peripheral cyanosis – secondary to cutaneous vasoconstriction due to low cardiac output or exposure to cold air

Central Cyanosis



Cough

Defined as explosive expiration for clearing the tracheobronchial tree of secretions and foreign bodies.

cardiovascular causes include pulmonary venous congestion, interstitial and alveolar oedema.

The nature of the sputum is often helpful in diagnosis

- ☐ pink frothy sputum - pulmonary oedema
- ☐ clear white mucoid sputum viral infection or longstanding bronchial irritation
- ☐ thick, yellowish sputum infection
- ☐ rusty sputum pneumococcal pneumonia
- ☐ blood streaked sputum tuberculosis, bronchiectasis, Ca lung or pulmonary infarction



Hemoptysis

- The expectoration of blood or of sputum, either streaked or grossly contaminated with blood



pulmonary edema, mitral stenosis, pulmonary infarction, of the lung.

carcinoma



Fatigue

Fatigue is a feeling of tiredness. It may be sudden or gradual in onset. It is a normal phenomenon if it follows prolonged physical or mental activity, and resolves completely with rest. However, it may be a symptom of a medical condition if it is prolonged, severe, progressive, or occurs without provocation. Common in patients with impaired cardiovascular function consequent to a reduced cardiac output associated with muscular weakness

- ☐ May be caused by drugs e.g. β -blockers
- ☐ May also result for excessive blood pressure reduction in patients with hypertension or heart failure
- ☐ May be caused by excessive diuresis or diuretic induced hypokalemia

Other symptoms

- Nocturia a condition characterized by the need to awaken ≥ 1 times per night to void. common in early heart failure.
- Anorexia.
- Abdominal fullness.
- Right upper quadrant abdominal discomfort.
- Weight loss and cachexia.