

Introductory Course

1- Common symptoms of heart disease

<i>Symptoms</i>	<i>Cardiovascular causes</i>	<i>Other causes</i>
Chest discomfort	Myocardial infarction Angina Pericarditis Aortic dissection	Oesophageal spasm Pneumothorax Musculoskeletal pain
Breathlessness	Heart failure Angina Pulmonary embolism Pulmonary Hypertension	Respiratory disease Anemias Obesity Anxiety
Palpitation	Tachyarrhythmias Ectopic beats	Anxiety Hyperthyroidism Drugs
Syncopedizziness	Arrhythmias Postural hypotension Aortic stenosis Hypertrophic obstructive cardiomyopathy Atrial myxoma	Simple faints Epilepsy Anxiety
Dedema	Heart failure Constrictive pericarditis Venous stasis	Nephrotic syndrome Liver disease Drugs Immobility

2- Cardiovascular causes of chest pain

<i>Type</i>	<i>Cause</i>	<i>Characteristics</i>
Type angina	Coronary artery disease Aortic stenosis Hypertrophic cardiomyopathy	Precipitated by exertion, eased by rest and/or glyceryl trinitrate; characteristic distribution
Myocardial infraction	Coronary artery occlusion	Similar sites to angina; more severe, persists at rest
Pericarditis pain	Pericarditis	Sharp, raw or stabbing; varies with movement or breathing
Aortic pain	Dissection of the aorta	Severe, tearing, sudden onset, radiates to the back

3- Factor aggravating or relieving angina

Aggravating:

- Exertion
- Emotional excitement
- Cold weather
- Exercise after meals

Relieving:

- Rest
- Glyceryl trinitrate
- Warm-up before exercise

4- Differential diagnosis: angina VS myocardial infarction

<i>Factor</i>	<i>Angina</i>	<i>Myocardial infarction</i>
Site	Retrosternal; radiates to arm, epigastrium, neck	Retrosternal; radiates to arm, epigastrium, neck
Precipitated	By exercise or emotion	Often spontaneous
Relieved	By rest, nitrates	Not by rest or nitrates
Anxiety	Absent or mild	Severe
Sympathetic activity	None	Increased
Nausea or vomiting	Unusual	Common

5- Characteristic of pericarditis pain

<i>Factor</i>	<i>Characteristic</i>
Site	Retrosternal; may radiate to left shoulder or back
Prodrome	May be preceded by a viral illness
Onset	No obvious initial precipitating factor; tends to fluctuate in intensity
Nature	May be stabbing or 'raw' - 'like sandpaper' often described as sharp, rarely as tight or heavy
Made worse	By changes in posture, respiration
Relieved	By analgesics, especially non – steroidal anti-inflammatory drugs (NSAIDs)
Accompanied	By pericardial rub

6- Surface markings of the arterial pulses

<i>Factor</i>	<i>Characteristic</i>
Artery	Surface marking
Radial	At the wrist, lateral to the flexor carpi radialis tendon
Brachial	In the antecubital fossa, medial to the biceps tendon
Carotid	At the angle of the jaw, anterior to the sternocleidomastoid muscle
Femoral	Just below the inguinal ligament, midway between the anterior superior iliac spine and the pubic symphysis (the mid-inguinal point). It is immediately lateral to the femoral vein and medial to the femoral nerve
Popliteal	Lies posteriorly in relation to the knee joint, at the level of the knee crease, deep in the popliteal fossa
Posterior tibial	Located 2 cm below and posterior to the medial malleolus, where it passes beneath the flexor retinaculum between flexor digitorum longus and flexor hallucis longus
Dorsalis pedis	Passes lateral to the tendon of extensor hallucis is longus and is best felt at the proximal extent of the groove between the first and second metatarsals. It may be absent or abnormally sited in 10% of normal subjects, sometimes being 'replaced' by a palpable perforating peroneal artery

7- Causes of a fast or slow pulse

<i>Heart rate</i>	<i>Sinus rhythm</i>	<i>Arrhythmia</i>
Fast (tachycardia, > 100/min)	Exercise Pain Excitement/anxiety Fever Hyperthyroidism Medication: Sympathomimetics Vasodilators	Atrial fibrillation Atrial flutter supraventricular tachycardia Ventricular tachycardia
Slow (bradycardia, < 60/min)	Sleep Athletic training Hypothyroidism Medication: β-blockers Digoxin Verapamil, Diltiazem	Carotid sinus hypersensitivity Sick sinus syndrome Second-degree heart block Complete heart block

8- Causes of an irregular pulse

<ul style="list-style-type: none"> • Sinus arrhythmia. • Atrial extrasystoles • Ventricular extrasystoles • Atrial fibrillation 	<ul style="list-style-type: none"> • Atrial flutter with variable response • Second-degree heart block with variable response
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9- Common causes of atrial fibrillation

<ul style="list-style-type: none"> • Hypertension • Heart failure • Myocardial infarction • Thyrotoxicosis • Alcohol-related heart disease 	<ul style="list-style-type: none"> • Mitral valve disease • Infection, e.g. respiratory, urinary • Following surgery, especially cardiothoracic surgery
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10- Causes of increased pulse volume

<p><i>Physiological:</i></p> <ul style="list-style-type: none"> • Exercise • Pregnancy <p><i>Pathological:</i></p> <ul style="list-style-type: none"> • Peripheral vascular disease • Hypertension • Fever • Thyrotoxicosis 	<ul style="list-style-type: none"> • Increased environmental temperature • Advanced age • Anaemia • Aortic regurgitation • Paget's disease of bone • Peripheral AV shunt
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11- Differences between carotid and jugular pulsation

<i>Carotid</i>	<i>Jugular</i>
Rapid outward movement	Rapid inward movement
One peak per heartbeat	Two peak per heartbeat (in sinus rhythm)
Palpable	Impalpable
Pulsation unaffected by pressure at the root of the neck	Pulsation diminished by pressure, at the root of the neck
Independent of respiration	Height of pulsation varies with respiration
Independent of position of patient	Varies with position of patient
Independent of abdominal pressure	Rises with abdominal pressure

12- British Hypertension Society classification of blood pressure level

<i>blood pressure</i>	<i>Systolic BP (mmHg)</i>	<i>Diastolic BP (mmHg)</i>
Optimal	< 120	< 80
Normal	< 130	< 85
High normal	130-139	85-89
Hypertension		
Grade 1 (mild)	140-159	90-99
Grade 2 (moderate)	160-179	100-109
Grade 3 (severe)	> 180	> 110
Isolated systolic hypertension		
Grade 1	140-159	< 90
Grade 2	> 160	< 90

13- Grades of intensity of murmur

Grade 1	Heard by an expert in optimum conditions
Grade 2	Heard by a non-expert in optimum conditions
Grade 3	Easily heard; no thrill
Grade 4	A loud murmur, with a thrill
Grade 5	Very loud, often heard over wide area, with thrill
Grade 6	Extremely loud, heard without stethoscope

14- Cardiac auscultation: the best sites for hearing abnormality

<i>Site</i>	<i>Sound</i>
Cardiac apex	First heart sound Third and fourth heart sounds Mid-diastolic murmur of mitral stenosis
Lower left sternal border	Early diastolic murmurs of aortic and tricuspid regurgitation
Upper left sternal border	Second heart sound. Opening snap of mitral stenosis Pulmonary valve murmurs Pansystolic murmur of ventricular septal defect
Upper right sternal border	systolic ejection (outflow) murmurs, e.g. aortic stenosis, hypertrophic obstructive cardiomyopathy
Left axilla	Radiation of the pansystolic murmur of mitral regurgitation
Below left clavicle	Continuous 'machinery' murmur of a persistent patent ductus arteriosus

15- Abnormalities of intensity of the first heart sound

Quiet <ul style="list-style-type: none"> • Low cardiac output • Poor left ventricular function 	<ul style="list-style-type: none"> • Long P-R interval (first – degree heart block) • Rheumatic mitral regurgitation
Loud <ul style="list-style-type: none"> • Increased cardiac output • Large stroke volume • Mitral stenosis 	<ul style="list-style-type: none"> • Short P-R interval • Atrial myxoma (rare)
Variable <ul style="list-style-type: none"> • Atrial fibrillation • Extrasystoles 	<ul style="list-style-type: none"> • Complete heart block

16- Differential diagnosis: angina VS oesophageal pain

<i>Factor</i>	<i>Angina</i>	<i>Oesophageal pain</i>
Site	Retrosternal; radiates to arm and jaw	Retrosternal or epigastric; sometimes radiates to arm or back
Precipitated	Usually by exertion	Can be worsened by exertion, but often present at other times
Relieved	Rapidly relieved by rest, nitrates	Not rapidly relieved by rest; often relieved by nitrates
Wakes patient from sleep	Seldom	Often
Relation to heartburn	None (but patients often have “wind”)	Sometimes
Duration	Typically 2-10 minutes	Variable