
Question: 1

Which of the following findings is suggestive of pulsus paradoxus?

- A. Inspiratory drop in SBP > 10 mmHg
- B. Expiratory drop in SBP > 10 mmHg
- C. Inspiratory rise in SBP > 10 mmHg
- D. Expiratory drop in SBP > 10 mmHg

Answer: A

Explanation: The finding suggestive of pulsus paradoxus is inspiratory drop in SBP > 10 mmHg. Pulsus paradoxus can be found in cardiac tamponade, constrictive pericarditis, airway obstruction, superior vena cava (SVC) obstruction, COPD, and asthma.

Question: 2

The nurse is preparing to record the blood pressure of a patient. What should be the correct position of the patient and arm?

- A. Patient sitting on chair taken in left arm
- B. Patient supine and upright taken in both arms
- C. Patient in any position taken in any of the arms
- D. Patient lying down on bed taken in right arm

Answer: B

Explanation: The correct position of the patient and arm is that blood pressure should be taken in both arms with the patient supine and upright with the arm at the level of heart. Dependency of the arm below heart level leads to an overestimation of systolic and diastolic pressures of about 10 mm Hg and raising the arm above heart level leads to underestimation of blood pressures.

Question: 3

Which of the following correctly defines pulse pressure?

- A. Mean of systolic blood pressure and diastolic blood pressure
- B. Difference of systolic blood pressure and diastolic blood pressure
- C. Sum of systolic blood pressure and diastolic blood pressure
- D. Mean arterial blood pressure

Answer: B

Explanation: Pulse pressure (PP) is defined as the difference of systolic blood pressure and diastolic blood pressure ($PP = \text{systolic BP (SBP)} - \text{diastolic PB (DBP)}$).

Question: 4

Pulsus bisferiens is present in which of the following conditions?

- A. Aortic stenosis + Aortic regurgitation
- B. Aortic stenosis
- C. Aortic regurgitation
- D. Mitral stenosis + Mitral regurgitation

Answer: A

Explanation: Pulsus bisferiens is a double waveform present in both the aortic stenosis + aortic regurgitation conditions combined.

Question: 5

What is the character of pulsus parvus et tardus?

- A. Slow uprising
- B. Sharp uprising
- C. Slow down falling
- D. Sharp down falling

Answer: D

Question: 6

In which of the following conditions is ST segment elevation seen on an ECG?

- A. LAH
- B. RVH
- C. Early repolarization after an attack of angina
- D. Myocardial infarction

Answer: D

Explanation: ST segment elevation is seen on an ECG in cases of myocardial infarction. Other conditions in which ST segment elevation is present: left ventricular hypertrophy, acute pericarditis, left bundle branch block with acute MI, advanced hyperkalemia, hypothermia

Question: 7

The bypass pathway known as bundle of Kent is present in Wolf-Parkinson-White syndrome. Which anatomical structures are connected via the bundle of Kent?

- A. Sinoatrial node and atrioventricular node
- B. Sinoatrial node and ventricle
- C. Atria and ventricle
- D. Atrioventricular node and ventricle

Answer: C

Explanation: The bundle of Kent connects the two anatomical structures of heart, the atria and the ventricle. Wolf-Parkinson-White syndrome develops because of the formation of extra electrical circuits within the heart. The condition leads to rapid heart rate and abnormal electrocardiogram. Wolf-Parkinson-White syndrome is a syndrome, and by definition, an identifiable external cause is not known. It is caused by an accessory pathway in the cardiac conduction system that causes arrhythmias in some individuals. The condition is congenital and there are no risk factors.

Question: 8

Which of the following is not a cause of long QT?

- A. Hypomagnesemia
- B. Hypermagnesemia
- C. Hypokalemia
- D. Hyponatremia

Answer: B

Explanation: Hypermagnesemia is not a cause of long QT. The causes of long QT syndromes are: hypokalemia, hypomagnesemia, congenital long QT syndromes, drugs like quinidine, phenothiazine, sotalol, erythromycin etc.

Question: 9

Presence of delta wave in ECG is characteristic finding of Wolf-Parkinson-White syndrome. How and where is it visible in ECG?

- A. Slurring at the end of QRS complex

- B. Initial slurring of down stroke of QRS complex
- C. Delayed upstroke at the end of QRS complex
- D. Slurred upstroke of QRS complex

Answer: D

Explanation: Delta waves are visible in ECG as slurred upstroke of QRS complex in Wolf-Parkinson-White syndrome, this is due to the accessory pathway that is characteristic of Wolf-Parkinson-White syndrome.

Question: 10

Which of the following statements are not true about sick sinus syndrome?

- A. Sick sinus syndrome is caused due to structural sinoatrial node disease
- B. Treatment is pacing for bradycardia and medicines for tachycardia
- C. Sick sinus syndrome is caused due to structural sinoatrial node disease
- D. Thickness of interventricular septum

Answer: D

Explanation: Thickness of interventricular septum is not used as a parameter for assessment of ventricular function. Parameters used for ventricular function assessment are (LVEF, RVEF, ventricular size and volume, wall motion anomalies, etc.)

Question: 11

A cardiac nurse records the ECG of a patient presenting with severe chest pain which shows ST-segment elevation and pathological Q-waves in leads II, III and aVF. Which of the following arteries is likely to be involved?

- A. Left anterior descending
- B. Right coronary artery
- C. Circumflex artery
- D. Both Right coronary artery and Circumflex artery

Answer: B

Explanation: Right coronary artery is most likely to be involved if pathological Q-wave and ST-T changes are present in leads II, III and aVF.

Table. Areas of Infarction

Infarct Area Usual Involved Vessel	Usual Involved Vessel	Q waves	Q waves	Infarct Area Usual Involved Vessel
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Anteroseptal Anterior Anterolateral Extensive anterior Anteroseptal Anterior Anterolateral Extensive
anterior Left descending (LAD) Left descending (LAD) V1, V2 V3, V4 I, aVL, V3-V6 I, aVL, V1 - V6 V1, V2
V3, V4 I, aVL, V3-V6 I, aVL, V1 - V6 Anteroseptal Anterior Anterolateral Extensive anterior Left
descending (LAD) V1, V2 V3, V4 I, aVL, V3-V6 I, aVL, V1 - V6
Inferior Inferior Right coronary artery (RCA) Right coronary artery (RCA) II, III, aVF II, III, aVF Inferior Right
coronary artery (RCA) II, III, aVF
Lateral Lateral CircumflexCircumflex I, aVL, V5, V6I, aVL, V5, V6 Lateral Circumflex I, aVL, V5, V6
Posterior Posterior RCA (accompanies inf. MI) Circumflex (isolated post. MI)RCA (accompanies inf. MI)
Circumflex (isolated post. MI) V6, mirror image V1 and V2V6, mirror image V1 and V2. Posterior RCA
(accompanies inf. MI) Circumflex (isolated post. MI) V6, mirror image V1 and V2.
Right ventricleRight ventricle RCA (most often) RCA (most often) V4R (V5R and V6R) (right sided chest
leads)V4R (V5R and V6R) (right sided chest leads) Right ventricle RCA (most often)