

CARDIOVASCULAR SYSTEM ECG

- Small square represents 0.045
- Large square (5 small squares) represents 0.25
- PR interval 0.12 to 0.20
- QRS complex 0.04 to 0.10
- QT interval 0.32 to 0.40
- CVP → 3 to 8 mmHg
- BP → 120/80 mmHg
- Pericardial fluid → 5 to 20 ml
- Cardiac index = C.O = $2.5 - 4 \text{ L/min/m}^2$
BSA
- Cardiac output = HR x Stroke volume = 4-6 L/mt
- Mean Arterial pressure (MAP)
 $= \frac{2(\text{DBP}) + \text{SBP}}{3}$
= 70 - 105 mmHg.
- Pulmonary artery pressure → 8-20 mmHg
- Pulmonary capillary wedge pressure → 2 - 15 mmHg

THERAPEUTIC POSITION

- Myocardial infarction → Semifowler's position
- Heart failure → Highfowler's position
- Shock → Trendelenburg position
- Position for CVP measurement → Supine position with head of the bed at 45 degree

THERAPEUTIC DIET

- MI → Soft diet, moderate calorie, salt
- Cardiac failure → Sodium restriction and fluid restriction. Tell them to avoid coffee, tea, chocolate and carbonated beverages. Instructed to have potassium rich food if he is on diuretics (Lasix)
- Hypertension → Sodium restriction to 2 gm daily and low cholesterol diet.

For more informations refer "NUTSHELL PLUS"
CLINICAL POINTS

- Agranulocytosis/neutropenia → Schulz's disease
- Kissing disease → IMN (Infectious mononucleosis)
- Hemophilia A & B (Royal disease) → BT normal
- Von Willebrand's disease → BT, CT prolonged
- Hemophilia B → Christmas disease - due to deficiency of factor IX
- Mineral needed for clotting - Calcium
- Reiter's syndrome → Reactive arthritis
- Lyme disease → Rheumatic joint disease
- Hodgkin's disease → Reed Sternburg cells (Epstein Barr virus)
- If RBC Increase, viscosity increases
- At high altitude, RBC count increases

PREVIOUS QUESTIONS

1. Which of the following changes seen in ECG indicates Hyperkalemia (HAAD)

- a) Tall T wave, widened QRS Complex, prolonged PR interval, flat P waves
 - b) Flattened / T wave inversion, appearance of U wave, ST depression
 - c) Shortened ST segment, widened T wave
 - d) Prolonged ST and QT intervals
- Answer-a

2. Electrocardiographic tracing recorded continuously over a period of 24 hr during routine activities, is (ESI HYDRABAD)

- a) Holter
 - b) Echocardiography
 - c) DSA
 - d) Treadmill test
- Answer-a

3. P wave represent (ACTREC)

- a) End of QRS complex & beginning of ST segment
- b) Atrial depolarization

- c) Ventricular depolarization
- d) Ventricular repolarization

■ Answer-b

4. P wave is commonly absent in (MSc ENTRANCE KERALA)

- a) Atrial fibrillation
- b) Tachycardia
- c) Bradycardia
- d) All of the above

■ Answer-a

5. The procedure that involves insertion of a catheter into heart and surrounding vessels to obtain the structure and performance of heart is (PSC)

- a) Angioplasty
- b) Laser ablation
- c) Cardioversion
- d) Cardiac catheterization

■ Answer-d

6. M shaped QRS complex is seen in (PROMETRIC SOUDI)

- a) Bundle branch block
- b) Atrial flutter
- c) Atrial fibrillation
- d) None of these

■ Answer-a

7. The cardiac marker which is elevated soon after MI is (MSc ENTRANCE JIPMER)

- a) Trop T
 - b) CKMB
 - c) LDH
 - d) Myoglobin
- Answer-d

8. The diagnostic study to assess left ventricular dysfunction is (RCC)

- a) Angiogram
 - b) ECG
 - c) Catheterization
 - d) Echocardiography
- Answer-d

9. Absence of recognizable QRS complex in ECG indicate (DHA)

- a) Atrial fibrillation
- b) Ventricular fibrillation
- c) Sinus arrhythmias
- d) Paroxysmal ventricular tachycardia

■ Answer-b

10. Which of the following coagulation study is done for one patient on heparin (DHA, HAAD, AIIMS)

- a) PT
- b) INR
- c) APTT
- d) Christmas factor

■ Answer-c

11. INR value of patient with mechanical valves (PROMETRIC QUATAR)

- a) 2.5 - 3.5
- b) 1 - 2
- c) 0 - 1
- d) None of the above

■ Answer-a (because on anticoagulants)

12. Isotope used for radionuclide imaging (PSC, ESI MUMBAI)

- a) Thallium 201
- b) Technetium 99m
- c) Both a & b
- d) Radioactive iodine

■ Answer-c

13. Cardiac catheterization means (PSC)

- a) It is an invasive procedure
- b) It is used to measure cardiac chamber pressure
- c) It is used to assess the patency of coronary arteries
- d) All the above

■ Answer-d

14. Which among the following is most specific cardiac enzyme (MSc ENTRANCE AIIMS)

- a) Creatine kinase (CK)
- b) CK-MB
- c) LDH
- d) None of the above

■ Answer-b

15. Which test reflects the blood glucose level for last 2 to 3 months? (DHA)

- a) Glycosylated hemoglobin
- b) PPBS
- c) FBS
- d) RBS

■ **Answer-a**
Once Hb is combined with glucose it will last for 3 month.

16. Normal range of Glycosylated hemoglobin is (RCC)

- a) 1% - 2%
- b) 4% - 7%
- c) 8% - 10%
- d) Above 10%

■ **Answer-b**

17. Which of the following is a cardiac specific creatine kinase? (SCTIMST)

- a) CKMM
- b) CKBB
- c) CKCB
- d) CKMB

■ **Answer-d**

18. Which of the following shows flipped pattern that signify myocardial infarction? (BARC)

- a) LDH1 > LDH2
- b) LDH1 = LDH2
- c) LDH2 > LDH1
- d) LDH3 > LDH2

■ **Answer-a**

LDH1 > LDH2 This pattern is termed as flipped pattern

19. Which of the following is most specific cardiac marker? (VSSC, PSC, ESI KOLLAM)

- a) CKMB
- b) Trop I
- c) Trop T
- d) LDH

■ **Answer-b**

20. Which of the following cardiac enzyme level returns to normal initially? (HSSC)

- a) CKMB
- b) Myoglobin
- c) Trop T
- d) Trop I

■ **Answer-b**

Myoglobin will be settled down within 24 hours.

21. Which of the following blood Parameters has been elevated after MI (CUK)

- a) RBCs
- b) WBCs
- c) Platelets
- d) Plasma level

■ **Answer-b**

In order to phagocyte damaged cells of MI, WBC level is elevated. So, CBC to be evaluated.

22. Which of the following is considered as the most favourable findings of lipid profile? (DHFWP)

- a) Elevated LDL level
- b) Elevated VLDL level
- c) Elevated HDL level
- d) Elevated triglyceride level

■ **Answer-c**

23. One patient is admitted with palpitation, which of following investigation can be suggested for the patient? (RPSC)

- a) Hb level
- b) TFT
- c) S.E
- d) All of the above

■ **Answer-d**

Anaemia can cause palpitation elevated thyroxine level causes tachycardia both hyper and hypokalemia causes arrhythmias.

24. Which of the following ECG lead shows changes in IWMI? (SHS - BIHAR)

- a) Lead 2
- b) AVL
- c) Lead 1
- d) V3

■ **Answer-a**

25. Appearance of U1 wave in ECG suggests (HAAD, PROMETRIC SAUDI)

- a) Hypocalcemia
- b) Hypercalcemia
- c) Hyperkalemia
- d) Hypokalemia

■ **Answer-d**

Please refer chapter I of "SUCCESS IN A NUTSHELL PLUS"

26. During CVP measurement, Zero point on the transducer needs to be at (MSc ENTRANCE RAK)

- a) Rt atrium
- b) Rt ventricle
- c) Lt atrium
- d) Lt ventricle

■ **Answer-a**

Because CVP measures the pressure of Right atrium.

27. "Saw tooth appearance" of ECG wave is seen in (PSC)

- a) Atrial flutter
- b) Atrial fibrillation
- c) SVT
- d) PVC

■ **Answer-a**

28. What is the most accurate cardiac marker? (JIPMER)

- a) Trop T
- b) Trop I
- c) Trop C
- d) CKMB

■ **Answer-a**

Trop T is the most accurate cardiac marker except CRF, because CRF patients show already elevated values of trop T

29. Pt had a history of chest pain 2 wks back. Which of the following cardiac marker can be evaluated? (AIIMS)

- a) Trop T
- b) Trop I
- c) CKMB
- d) Myoglobin

■ **Answer-a**

Because all other markers come into normal limit within 1 wk. Trop T will be elevated for 21 days.

30. What is the most accurate cardiac marker for CRF patient? (PSC)

- a) Trop T
- b) Trop I
- c) S. creatinine
- d) BUN

■ **Answer-b**

(CRF patients show already elevated values of trop T)

31. 'W' shaped QRS complex in V1 lead indicate (RCC)

- a) Lt bundle branch block
- b) Rt bundle branch block
- c) 20 Heart block
- d) Both a & b

■ **Answer-a**

M shaped QRS complex in V1 lead indicate Right bundle branch block. (For further notes and Mnemonics refer chapter I of "SUCCESS IN A NUTSHELL PLUS"

32. Which of the ECG change is observed in mobitz II type of heart block (HAAD)

- a) Progressively increasing PR interval
- b) Dropped QRS complex
- c) Shuffled waves
- d) Both a & b

■ **Answer-b**

Option (d) indicate mobitz I or wenkebach phenomenon. Option (c) indicate 30 heart block. There is no relationship between waves.

33. Which of the following investigation is suggested for a patient on antilipid therapy? (PROMETRIC)

- a) RFT
- b) LFT
- c) S.E
- d) CBC

■ **Answer-b**

Because antilipid medication mobilizes lipid from blood vessels into the liver. That may cause fatty liver.

34. Normal pulmonary artery wedge pressure is (PSC)

- a) 2 - 15 mmHg
- b) 20 - 30 mmHg
- c) 30 - 40 mmHg
- d) 40 - 50 mmHg

■ **Answer-a**

35. Trendelenburg test is used to detect (PSC)

- a) DVT
- b) Varicose vein
- c) Thrombophlebitis
- d) Valvular disorder

■ **Answer-b**

36. Drug of choice for patient with heart failure to improve cardiac output (HCL)

- a) Digibind
- b) Morphine
- c) Digoxin
- d) Dobutamine

■ **Answer-c**

37. Digoxin toxicity occurs when serum concentration is more than (JIPMER)

- a) 2ng/ml
- b) 2ng/dl
- c) 1mg/dl
- d) .2mg/dl

■ **Answer-a**

38. Antidote of digoxin (PSC)

- a) N-Acetyl cystiene
- b) Protamine sulfate
- c) Warfarin
- d) Digibind

■ **Answer-d**

39. The drug used for managing morphine induced respiratory depression is (NIMHANS)

- a) Pethedine
- b) Deriphylline
- c) Nalaxone
- d) Atropine

■ Answer- c

40. Drug of choice for rheumatic fever is (ESI KOLLAM)

- a) Cephalosporin
- b) Penicillin
- c) Streptomycin
- d) Gentamycin

■ Answer- b

41. One of the toxic sign to be watched for a patient getting digoxin is (SCTIMST)

- a) Peripheral edema
- b) Rashes

- c) Oliguria
- d) Bradycardia

■ Answer- d (Due to increased vagal stimulation at AV Node)

42. When providing care to patient with thrombocytopenia, avoid aspirin because (RCC)

- a) Interferes with platelet aggregation
- b) Destroy thrombocytes
- c) Reduces circulation
- d) Produces haemolysis

■ Answer- a

43. Captopril is (PSC)

- a) Antipyretic
- b) Diuretic
- c) Antihypertensive

- d) Antipsychotic

■ Answer- c

44. Propranolol is included under (DSSB)

- a) Beta blocker
- b) Calcium channel blocker
- c) ACE inhibitors
- d) Antiplatelet drugs

■ Answer- a

45. Streptokinase to be infused over (VSSC)

- a) 1 hours
- b) 3 hours
- c) 6 hours
- d) 8 hours

■ Answer- a