Heart Failure - Difficult MCQs

1. A 60-year-old patient presents with reduced cardiac output despite normal blood volume. Which best explains heart failure in this context?

A. Increased preload due to fluid overload
B. Structural or functional impairment of cardiac pumping
C. Excessive venous return only
D. Increased oxygen delivery to tissues

2. Which of the following is the most accurate definition of heart failure?

A. Inability of lungs to oxygenate blood
B. Inability of the heart to meet metabolic demands of the body
C. Reduced blood pressure only
D. Increased cardiac contractility

3. Which mechanism contributes to heart failure independent of myocardial infarction?

A. Increased RBC production
B. Mechanical disturbance in ventricular filling
C. Hyperthyroidism
D. Increased hemoglobin affinity for oxygen

4. A patient with HF has excessive cardiac workload due to volume overload. This primarily represents:

A. Diastolic dysfunction only
B. Systolic hemodynamic disturbance
C. Electrical conduction defect
D. Valvular stenosis only

5. Which of the following is the most common cause of heart failure?

A. Hypertension
B. Valvular disease
C. Ischemic heart disease
D. Congenital defects

6. Dilated cardiomyopathy contributes to HF mainly by:

A. Increasing afterload
B. Impairing ventricular contraction
C. Enhancing electrical conduction
D. Reducing preload

7. Which of the following is NOT a typical pathophysiological change in HF?

A. Ventricular dilatation
B. Myocyte hypertrophy
C. Increased renal excretion of sodium
D. Peripheral vasoconstriction

8. Salt and water retention in HF is primarily due to:

A. Increased renal blood flow
B. Neurohormonal activation
C. Decreased sympathetic activity
D. Reduced aldosterone levels

9. Which of the following is most suggestive of right-sided heart failure?

A. Pulmonary crackles
B. Ascites
C. Dyspnea
D. Orthopnea

10. Paroxysmal nocturnal dyspnea is best described as:

A. Continuous daytime breathlessness
B. Sudden nighttime episodes of severe dyspnea
C. Dyspnea only during exercise
D. Breathlessness relieved by lying flat

11. Which NYHA class describes a patient comfortable at rest but with marked limitation during mild activity?

A. Class I
B. Class II
C. Class III
D. Class IV

12. A patient experiences HF symptoms even at rest. This corresponds to:

A. Class I
B. Class II
C. Class III
D. Class IV

13. The normal location of the point of maximum impulse (PMI) is:

A. Right 5th intercostal space
B. Left 4th intercostal space at sternum
C. Left 5th intercostal space at midclavicular line
D. Left 6th intercostal space mid-axillary line

14. Lateral displacement of the apex beat typically indicates:

A. Decreased preload
B. Cardiac enlargement
C. Increased heart rate
D. Normal variation

15. Which compensatory mechanism increases heart rate in HF?

A. Parasympathetic stimulation
B. Norepinephrine release
C. Decreased renin secretion
D. Reduced sympathetic tone

16. The Frank-Starling mechanism in HF primarily affects:

A. Heart rate
B. Contractility via ventricular stretch
C. Electrical conduction
D. Blood pressure regulation

17. Neurohormonal compensation in HF leads to:

A. Decreased blood flow to brain

B. Redistribution of blood to vital organs
C. Reduced vascular resistance
D. Decreased aldosterone

18. Which component is directly responsible for vasoconstriction in the HF vicious cycle?

A. Angiotensin II
B. Renin only
C. Sodium
D. Oxygen

19. Aldosterone contributes to HF progression by:

A. Increasing potassium excretion only
B. Promoting sodium and water retention
C. Decreasing blood volume
D. Reducing preload

20. Acute pulmonary edema is best described as:

A. Mild and self-limiting
B. Chronic condition
C. Life-threatening emergency
D. Only seen in right HF

21. Which of the following is a symptom rather than a sign of HF?

A. Cardiomegaly
B. Elevated JVP
C. Dyspnea
D. Pleural effusion

22. Which condition is LEAST likely to cause HF?

A. Arrhythmias
B. Alcohol use
C. Hypertension
D. Increased oxygen saturation

23. Peripheral vasoconstriction in HF results in:

A. Reduced afterload
B. Increased afterload
C. Decreased blood pressure
D. Increased oxygen delivery

24. Which treatment is considered a device-based therapy?

A. ACE inhibitors
B. Beta blockers
C. Implantable cardiac defibrillator
D. Diuretics

25. Which pharmacologic class primarily reduces fluid overload in HF?

A. Beta blockers
B. ACE inhibitors
C. Diuretics
D. Digitalis

Answer Key

1. B
2. B
3. B
4. B
5. C
6. B
7. C
8. B
9. B
10. B
11. C
12. D
13. C
14. B
15. B
16. B
17. B
18. A
19. B
20. C
21. C
22. D
23. B
24. C
25. C