

MULTIPLE CHOICE

AE MYOCARDIAL AND PERICARDIAL - PRACTICE SET

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. Hypokinesis of the lateral wall is most consistent with disease of which coronary artery?

- A. Right coronary artery
- B. Left anterior descending artery
- C. Posterior descending artery
- D. Left circumflex artery

2. A patient is suspected of having LV apical thrombus, but standard imaging is equivocal. Which next-best step is most appropriate?

- A. Increase the color Doppler gain to highlight the thrombus
- B. Use an ultrasound contrast (LV opacification) agent to better define the apex
- C. Switch to continuous-wave Doppler interrogation of the apex
- D. Decrease the depth and use a higher frequency transducer only

3. Restrictive cardiomyopathy is best distinguished from dilated cardiomyopathy by which echocardiographic feature?

- A. Severe four-chamber dilation with global hypokinesis
- B. Marked biatrial enlargement with normal or small ventricular cavities
- C. Asymmetric septal thickening with outflow obstruction
- D. Pericardial thickening with septal bounce

4. Color Doppler interrogation of the interventricular septum after anterior myocardial infarction reveals a turbulent left-to-right flow jet. This finding is most consistent with:

- A. Post-infarct ventricular septal rupture
- B. Left ventricular free wall rupture
- C. Pericardial tamponade
- D. Acute mitral regurgitation from papillary muscle rupture

5. Akinesis of the inferior wall in a right-dominant circulation most likely reflects infarction in the territory of which artery?

- A. Left circumflex artery
- B. Right coronary artery
- C. Left main coronary artery
- D. Left anterior descending artery

6. Which echocardiographic feature suggests that a pericardial effusion is hemodynamically significant?

- A. Diastolic collapse of the right ventricular free wall
- B. Dilation of all four cardiac chambers without effusion
- C. Bright pericardial echogenicity without fluid
- D. A small anterior-only effusion without atrial collapse

7. A patient presents with chest pain after emotional stress, has akinesis of the apical and mid LV segments with preserved basal contraction, and no obstructive coronary disease. This pattern is most consistent with:

- A. Hypertrophic cardiomyopathy
- B. Acute myocarditis
- C. Anterior wall myocardial infarction
- D. Takotsubo (stress) cardiomyopathy

8. Pulsus paradoxus, defined as an exaggerated inspiratory drop in systemic systolic pressure, is most closely associated with which condition?

- A. Cardiac tamponade
- B. Hypertrophic cardiomyopathy
- C. Restrictive cardiomyopathy
- D. Constrictive pericarditis

9. Which hepatic vein Doppler pattern is most characteristic of constrictive pericarditis?

- A. Loss of phasic flow with continuous forward flow
- B. Inspiratory diastolic flow reversal
- C. Holosystolic flow reversal
- D. Expiratory diastolic flow reversal

10. True or false: ventricular interdependence is a key physiologic feature of both constrictive pericarditis and cardiac tamponade.

- A. True
- B. False

11. A regional wall motion abnormality of the anterior wall, anteroseptum, and apex on echocardiography most likely reflects occlusion of which coronary artery?

- A. Left anterior descending artery
- B. Left circumflex artery
- C. Posterior descending artery
- D. Right coronary artery

12. A patient with hypertrophic cardiomyopathy demonstrates a dynamic left ventricular outflow tract gradient. The continuous-wave Doppler signal across the LVOT typically shows which waveform shape?

- A. Late-peaking dagger-shaped systolic envelope
- B. Early-peaking rounded systolic envelope
- C. Holodiastolic decelerating envelope
- D. Symmetric V-shaped systolic envelope

13. A new holosystolic murmur and acute pulmonary edema several days after an inferior myocardial infarction most likely reflect which complication?

- A. Left ventricular free wall rupture with tamponade
- B. Pericarditis with friction rub
- C. Ventricular septal rupture causing left-to-right shunt
- D. Papillary muscle rupture causing acute mitral regurgitation

14. Which echocardiographic finding is most characteristic of dilated cardiomyopathy?

- A. Small underfilled left ventricle with biatrial enlargement
- B. Globally reduced left ventricular systolic function with chamber enlargement
- C. Asymmetric septal hypertrophy with preserved ejection fraction
- D. Concentric left ventricular hypertrophy with normal cavity size

15. A left ventricular pseudoaneurysm is best distinguished from a true aneurysm by which echocardiographic feature?

- A. Narrow neck with a mouth-to-cavity diameter ratio less than the body of the outpouching
- B. Wide neck with smooth transition from the ventricular cavity
- C. Paradoxical inward motion during diastole
- D. Presence of all three myocardial layers in the wall

16. Left ventricular thrombus is most commonly seen in association with which finding?

- A. Concentric left ventricular hypertrophy with preserved function
- B. Isolated right ventricular infarction
- C. Hyperdynamic basal lateral wall with normal apex
- D. Akinetic or dyskinetic apical segment after anterior myocardial infarction

17. Which 2D echocardiographic finding is most specific for cardiac tamponade physiology?

- A. Right atrial systolic collapse and right ventricular diastolic collapse
- B. Left ventricular systolic collapse
- C. Left ventricular diastolic collapse only
- D. Left atrial systolic collapse only

18. Which morphologic finding is most suggestive of chronic constrictive pericarditis?

- A. Echo-dense mass within the left ventricular apex
- B. Thickened and brightly echogenic pericardium
- C. Bright endocardial speckling of the left ventricle
- D. Discrete pedunculated mass attached to the atrial septum

19. Which sonographic feature best differentiates an apical thrombus from a near-field artifact?

- A. The thrombus crosses anatomic boundaries and changes with gain
- B. The thrombus moves with the transducer and disappears with depth changes
- C. The thrombus has distinct borders, is visible in multiple views, and is adjacent to an abnormally contracting wall
- D. The thrombus is only visible with color Doppler and not on 2D

20. Effusive-constrictive pericarditis is best described as:

- A. A pericardial effusion that resolves spontaneously without sequelae
- B. A pericardial effusion with persistent constrictive physiology after the fluid is removed
- C. Isolated thickening of the pericardium without any fluid
- D. A loculated effusion confined to the anterior pericardial space

21. True or false: in cardiac tamponade, inspiratory increase in tricuspid inflow velocity is accompanied by a reciprocal decrease in mitral inflow velocity.

- A. False
- B. True

22. In the parasternal long-axis view, which feature distinguishes a pericardial effusion from a pleural effusion?

- A. The pleural effusion shows respirophasic variation while the pericardial does not
- B. The pericardial effusion is always larger than the pleural effusion
- C. The pericardial effusion tapers anterior to the descending thoracic aorta
- D. The pleural effusion is anterior to the right ventricle

23. Which pitfall most commonly causes false identification of a left ventricular apical thrombus?

- A. Near-field reverberation artifact in the apex from an under-penetrated image
- B. Color Doppler aliasing in the LV cavity
- C. Side-lobe artifact from a prosthetic mitral valve
- D. Posterior shadowing from a calcified mitral annulus

24. A segment that bulges outward during systole rather than thickening inward is described as:

- A. Dyskinetic
- B. Hyperkinetic
- C. Akinetic
- D. Hypokinetic

25. Which finding distinguishes constrictive pericarditis from restrictive cardiomyopathy on echocardiography?

- A. Restrictive mitral inflow pattern with short deceleration time
- B. Reduced tissue Doppler e prime velocity at the medial mitral annulus
- C. Marked biatrial enlargement
- D. Septal bounce and respirophasic ventricular septal shift