

1. Which of the following cellular mechanisms is most directly involved in the pathogenesis of myocarditis?

Group of answer choices

10 pts

- Deposition of beta-amyloid protein in the cardiac tissue
- Activation of renin-angiotensin-aldosterone system
- **Infiltration of the myocardium by inflammatory cells**
- Endothelial dysfunction leading to plaque rupture

2. An adult patient presents with fever and a new regurgitation murmur. Blood cultures reveal the presence of Streptococcus viridans, and an echocardiogram shows vegetations on the mitral valve. On examination, nontender, erythematous macules are present on her palms. What is the cause of this physical examination finding?

Group of answer choices

10 pts

- Reaction to circulating bacterial endotoxins in the skin
- Deposition of immune complexes in the small blood vessels
- **Septic emboli**
- Hypersensitivity reaction to the bacteria in the skin

3. An adult patient with a history of chronic hepatitis C presents with a sudden onset of dark urine and lower extremity rash. A biopsy of the rash reveals deposits of immune complexes in small blood vessels. Which of the following best describes the primary response that results in tissue damage in this patient's condition?

Group of answer choices

10 pts

- Direct cytolysis by the immune complexes
- Direct cytolysis by cytotoxic T cells
- Hyperactivation of natural killer cells leading to vascular injury
- **Activation of the complement cascade causing local inflammation**

4. A young man with Marfan syndrome presents to the emergency department with sudden, sharp chest pain radiating to the back. Imaging studies reveal an intimal flap in the ascending aorta and a false lumen with differential flow. Which of the following histologic features of the aortic wall most likely predisposed this patient to the described condition?

Group of answer choices

10 pts

- Calcification of the tunica externa