

### QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with a 2-day history of severe, tearing chest pain that radiates to the left arm and back. The patient is diaphoretic and has a heart rate of 110 beats per minute, blood pressure of 180/100 mmHg, and oxygen saturation of 92% on 2L oxygen. ECG shows ST-segment depression in leads II, III, and aVF, and ST-segment elevation in leads V1, V2, and V3. The patient's medical history is significant for aortic aneurysm and aortic dissection.

Which of the following is the most likely diagnosis for this patient's chest pain?

- Myocardial infarction
- Aortic dissection
- Pericarditis
- Pulmonary embolism

The patient's symptoms and physical findings are most consistent with aortic dissection. The tearing chest pain that radiates to the back and arm, along with the ST-segment depression in leads II, III, and aVF and ST-segment elevation in leads V1, V2, and V3, are characteristic of aortic dissection. Myocardial infarction typically presents with a crushing chest pain that is not relieved by rest or nitroglycerin. Pericarditis is characterized by a sharp, pleuritic chest pain that is worse when lying down and better when sitting up. Pulmonary embolism typically presents with a sudden onset of shortness of breath, chest pain, and tachypnea.

**ANSWER:** B. Aortic dissection. The patient's symptoms and physical findings are most consistent with aortic dissection.

**EXPLANATION:** The patient's symptoms and physical findings are most consistent with aortic dissection. The tearing chest pain that radiates to the back and arm, along with the ST-segment depression in leads II, III, and aVF and ST-segment elevation in leads V1, V2, and V3, are characteristic of aortic dissection. Myocardial infarction typically presents with a crushing chest pain that is not relieved by rest or nitroglycerin. Pericarditis is characterized by a sharp, pleuritic chest pain that is worse when lying down and better when sitting up. Pulmonary embolism typically presents with a sudden onset of shortness of breath, chest pain, and tachypnea.