

## QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with acute-onset chest pain and shortness of breath. The patient reports a tearing sensation in the chest that radiates to the back. Physical examination reveals a blood pressure of 180/110 mmHg, tachycardia, and a new murmur. An electrocardiogram (ECG) shows ST-segment depression in leads V1-V4. A chest X-ray is unremarkable. The patient's medical history includes a recent fall from a ladder and a known aortic aneurysm. The patient's current medications include lisinopril, atorvastatin, and aspirin. The patient's family history is notable for aortic dissection in his father and maternal grandfather.

Which of the following is the most likely diagnosis? (Select one)

Aortic dissection

Myocardial infarction

Pulmonary embolism

Aortic aneurysm rupture

Pericarditis

ANSWER: Aortic dissection

## EXPLANATION

The patient's presentation is highly suggestive of aortic dissection. The key features include acute-onset tearing chest pain that radiates to the back, a blood pressure of 180/110 mmHg, tachycardia, and a new murmur. The ECG shows ST-segment depression in leads V1-V4, which is a common finding in aortic dissection. The chest X-ray is unremarkable, which is also consistent with aortic dissection. The patient's medical history includes a recent fall from a ladder and a known aortic aneurysm, both of which are risk factors for aortic dissection. The patient's family history is notable for aortic dissection in his father and maternal grandfather, suggesting a genetic predisposition. The patient's current medications include lisinopril, atorvastatin, and aspirin, which are not contraindications to aortic dissection.

Myocardial infarction is a common cause of acute chest pain, but the tearing sensation and radiating pain to the back are not typical. Pulmonary embolism is also a common cause of acute chest pain and shortness of breath, but the tearing sensation and radiating pain to the back are not typical. Aortic aneurysm rupture is a possible cause of acute chest pain and shortness of breath, but the tearing sensation and radiating pain to the back are not typical. Pericarditis is a possible cause of acute chest pain, but the tearing sensation and radiating pain to the back are not typical.