

QUESTION
 A 65-year-old male patient with a long history of hypertension and diabetes mellitus presents to the emergency department with a 2-day history of severe, crushing chest pain. The pain is described as a heavy weight on his chest and is exacerbated by exertion. He has a history of smoking 20 cigarettes per day for 30 years. His current medications include lisinopril, metformin, and aspirin. He has no known allergies. On arrival, he is found to be tachycardic (heart rate 110 bpm) and hypertensive (blood pressure 180/110 mmHg). ECG shows ST-segment elevation in leads V1, V2, and V3. Troponin I is elevated. The patient is diagnosed with an acute anterior wall myocardial infarction (MI).

ANSWER
 The patient's presentation is consistent with an acute anterior wall myocardial infarction (MI). The key features include severe, crushing chest pain, tachycardia, and ST-segment elevation on ECG. The patient's risk factors, including hypertension, diabetes, and long-term smoking, significantly increase his susceptibility to this condition. The diagnosis is supported by the elevated troponin I levels.

ACUTE MYOCARDIAL INFARCTION



The pathophysiology of an acute MI involves a sudden, complete or near-complete occlusion of a coronary artery, leading to myocardial ischemia and necrosis. In this case, the anterior wall of the heart is affected, which is typically supplied by the anterior descending artery. The patient's symptoms and ECG findings are characteristic of this type of MI.

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