

## QUESTION

A 65-year-old man with a 20-year history of hypertension and a 10-year history of type 2 diabetes mellitus presents to the emergency department with a 2-day history of severe, constant, retrosternal chest pain. The pain is described as a heavy, crushing pressure that is worse when he lies down and is not relieved by rest or over-the-counter pain relievers. He has no shortness of breath, sweating, or nausea. He is currently on lisinopril 10 mg daily and metformin 500 mg twice daily.

On arrival, his vital signs are: blood pressure 180/100 mmHg, heart rate 110 bpm, respiratory rate 20 breaths per minute, and oxygen saturation 96% on room air. Physical examination shows a pale, diaphoretic patient with a clear lungs and normal heart sounds. An electrocardiogram (ECG) shows sinus tachycardia with ST-segment depression in leads II, III, and aVF, and ST-segment elevation in leads V1, V2, and V3. A chest X-ray is unremarkable.

## ANSWER

The patient's presentation is consistent with a non-ST-elevation myocardial infarction (NSTEMI). The key features include severe, retrosternal chest pain at rest, ST-segment depression in the limb leads, and ST-segment elevation in the anterior chest leads (V1-V3). The absence of ST-segment elevation in the limb leads and the presence of ST-segment depression are characteristic of NSTEMI. The patient's risk factors, including long-standing hypertension and diabetes, further support this diagnosis.

The patient's vital signs and physical examination are consistent with a severe, acute coronary syndrome. The ECG findings are diagnostic for NSTEMI. The chest X-ray is unremarkable, which is typical for NSTEMI.

## DISCUSSION



The patient's presentation is consistent with a non-ST-elevation myocardial infarction (NSTEMI). The key features include severe, retrosternal chest pain at rest, ST-segment depression in the limb leads, and ST-segment elevation in the anterior chest leads (V1-V3). The absence of ST-segment elevation in the limb leads and the presence of ST-segment depression are characteristic of NSTEMI. The patient's risk factors, including long-standing hypertension and diabetes, further support this diagnosis.