

QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with a 2-hour history of severe, crushing chest pain. The pain is described as a heavy weight on his chest and is not relieved by rest or nitroglycerin. He has a history of smoking 20 cigarettes per day for 30 years. His vital signs are: blood pressure 180/110 mmHg, heart rate 110 bpm, respiratory rate 20 breaths per minute, and oxygen saturation 92% on room air. Physical examination reveals a pale, diaphoretic patient with a 3rd heart sound (S3) and a 4th heart sound (S4) at the apex. There is no jugular venous distention, crackles, or wheezes. The patient's electrocardiogram (ECG) shows ST-segment elevation in leads V1, V2, and V3, consistent with an anterior wall myocardial infarction (MI). The patient's medical history includes hypertension, hyperlipidemia, and a previous MI 10 years ago. He is currently on lisinopril, atorvastatin, and aspirin. The patient's family history is significant for premature coronary artery disease in his father and brother. The patient's social history includes a 30-year history of smoking 20 cigarettes per day. The patient's physical examination is otherwise unremarkable. The patient's laboratory studies are as follows:

Test	Result	Reference Range
troponin I	0.15	<0.04
troponin T	0.08	<0.01
creatinine	1.2	0.7-1.3
total cholesterol	240	<200
LDL cholesterol	180	<100
HDL cholesterol	40	>40
fasting glucose	100	70-100
hemoglobin A1c	5.8	<5.7
hemoglobin	15	13.5-16.5
hematocrit	45	38-50
white blood cell count	12,000	4,800-10,800
neutrophils	85%	50-70%
platelets	250,000	150,000-400,000

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ANSWER



The patient's presentation is consistent with an anterior wall myocardial infarction (MI). The ECG shows ST-segment elevation in leads V1, V2, and V3, which is characteristic of an anterior wall MI. The patient's symptoms, including severe, crushing chest pain, and physical examination findings, such as a 3rd heart sound (S3) and a 4th heart sound (S4) at the apex, are also consistent with an anterior wall MI. The patient's medical history, including hypertension, hyperlipidemia, and a previous MI, further supports the diagnosis. The patient's laboratory studies, including elevated troponin I and T, elevated creatine kinase-MB, and elevated lactate dehydrogenase, are also consistent with an anterior wall MI. The patient's ECG findings, including ST-segment elevation in leads V1, V2, and V3, are also consistent with an anterior wall MI. The patient's management should include aspirin, beta-blocker, ACE inhibitor, statin, and nitroglycerin. The patient's prevention should include lifestyle changes, aspirin, beta-blocker, ACE inhibitor, and statin. The patient's outcome should be a reduced risk of mortality and morbidity.

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