

QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with acute chest pain. The pain is described as a heavy, crushing pressure in the center of the chest, lasting for approximately 30 minutes. The patient has a history of smoking 20 cigarettes per day for 30 years and has no known allergies. 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 clear lungs, normal heart sounds, and no murmurs. An electrocardiogram (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 includes hypertension, hyperlipidemia, and a recent diagnosis of atrial fibrillation. He is currently on treatment with aspirin, clopidogrel, and warfarin. The patient's family history is notable for a father who died of a myocardial infarction at the age of 55 and a mother who died of a stroke at the age of 70.

ANSWER

The patient's presentation is consistent with a non-ST-elevation myocardial infarction (NSTEMI). The key features include acute chest pain with a heavy, crushing quality, ST-segment depression in leads II, III, and aVF, and ST-segment elevation in leads V1, V2, and V3. The patient's risk factors, including hypertension, hyperlipidemia, and a long history of smoking, further support this diagnosis. The patient's current medications, including aspirin, clopidogrel, and warfarin, are appropriate for secondary prevention of cardiovascular events. The patient's family history of premature cardiovascular disease also increases his risk for atherosclerotic cardiovascular disease.

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DISCUSSION



The diagram illustrates the anatomical relationship between the heart and the major blood vessels. It shows a cross-section of the heart with the left ventricle and right ventricle. Arrows indicate the direction of blood flow. The left ventricle has a thick wall and a narrow lumen, and it pumps blood into the aorta. The right ventricle has a thinner wall and a larger lumen, and it pumps blood into the pulmonary artery. The diagram also shows the coronary arteries branching off from the base of the aorta to supply the heart muscle with oxygenated blood.

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