

QUESTION

A 65-year-old male with a long history of hypertension and hyperlipidemia presents to the emergency department with a 2-day history of severe, crushing chest pain. The pain is constant and radiates to the left arm and jaw. He has a history of smoking 20 cigarettes per day for 30 years. His medical history is significant for a myocardial infarction 10 years ago. He is currently on lisinopril and atorvastatin. He has no known allergies. His vital signs are: temperature 38.5°C, heart rate 110 bpm, blood pressure 180/100 mmHg, respiratory rate 20 breaths per minute, and oxygen saturation 92% on room air. Physical examination reveals a pale, diaphoretic patient with clear lungs and a regular sinus tachycardia. An electrocardiogram shows ST-segment elevation in leads V1-V4. A chest X-ray is unremarkable. Laboratory studies show a troponin I level of 0.15 ng/mL, a creatine phosphokinase-MB level of 150 U/L, and a D-dimer level of 1.2 µg/mL. The patient is diagnosed with an acute ST-segment elevation myocardial infarction (STEMI).

ANSWER

The patient has an acute ST-segment elevation myocardial infarction (STEMI). The diagnosis is based on the presence of chest pain with ST-segment elevation on the electrocardiogram (ECG) and elevated troponin I and creatine phosphokinase-MB (CK-MB) levels. The patient's history of hypertension, hyperlipidemia, and smoking increases his risk for atherosclerosis and subsequent myocardial infarction. The physical examination findings of a regular sinus tachycardia and diaphoresis are consistent with the diagnosis. The chest X-ray is unremarkable, which helps to rule out other causes of chest pain such as aortic dissection or pulmonary embolism. The patient's vital signs, including a blood pressure of 180/100 mmHg, indicate severe hypertension, which may be a complication of the acute myocardial infarction.

The patient's symptoms and physical examination findings are consistent with an acute ST-segment elevation myocardial infarction (STEMI). The diagnosis is based on the presence of chest pain with ST-segment elevation on the electrocardiogram (ECG) and elevated troponin I and creatine phosphokinase-MB (CK-MB) levels. The patient's history of hypertension, hyperlipidemia, and smoking increases his risk for atherosclerosis and subsequent myocardial infarction. The physical examination findings of a regular sinus tachycardia and diaphoresis are consistent with the diagnosis. The chest X-ray is unremarkable, which helps to rule out other causes of chest pain such as aortic dissection or pulmonary embolism. The patient's vital signs, including a blood pressure of 180/100 mmHg, indicate severe hypertension, which may be a complication of the acute myocardial infarction.

QUESTION



The diagram illustrates a network or flow structure. It features a central node (a circle) connected to three peripheral nodes (circles) by lines. The central node is positioned at the top center, and the three peripheral nodes are arranged in a triangular pattern below it. This represents a simple network or flow structure.

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