

### 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, radiating to the left arm and jaw. The patient has a history of smoking 20 cigarettes per day for 30 years and has a family history of premature coronary artery disease. He is currently on amlodipine and atorvastatin. The patient's vital signs are: 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 a clear lungs and a regular rhythm. An electrocardiogram (ECG) shows ST-segment elevation in leads V1, V2, and V3, consistent with an anterior wall myocardial infarction (MI). The patient is administered aspirin, nitroglycerin, and morphine. A chest X-ray is normal. The patient is transferred to the cardiac catheterization laboratory for primary percutaneous coronary intervention (PPCI).

During the PPCI procedure, the patient develops a sudden decrease in oxygen saturation and hypotension. The interventional cardiologist notices a large amount of contrast dye extravasation into the pericardial space, consistent with a pericardial perforation. The procedure is aborted, and the patient is transferred to the intensive care unit (ICU) for further management. The patient's vital signs are: heart rate 120 bpm, blood pressure 90/60 mmHg, respiratory rate 22 breaths per minute, and oxygen saturation 88% on 4L oxygen. Physical examination reveals a tachycardic patient with a clear lungs and a regular rhythm. The patient is administered morphine, fentanyl, and a bolus of morphine. The patient is intubated and placed on mechanical ventilation. A chest X-ray shows a small right-sided pneumothorax. The patient is transferred to the operating room for a pericardiotomy and pericardial washout. The patient's vital signs are: heart rate 100 bpm, blood pressure 100/70 mmHg, respiratory rate 18 breaths per minute, and oxygen saturation 95% on 5L oxygen. The patient is extubated and transferred to the medical ICU for further management. The patient's vital signs are: heart rate 80 bpm, blood pressure 120/80 mmHg, respiratory rate 16 breaths per minute, and oxygen saturation 98% on room air. The patient is discharged to the medical ward on day 3.

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