

**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 sensation 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 a family history of premature coronary artery disease. He is currently on amlodipine and atorvastatin. The patient's vital signs are: heart rate 100 bpm, blood pressure 180/100 mmHg, respiratory rate 20 breaths per minute, and oxygen saturation 92% on room air. Physical examination reveals a clear lung field, normal heart sounds, and no murmurs. The patient is administered aspirin, nitroglycerin, and morphine. An electrocardiogram (ECG) shows ST-segment elevation in leads II, III, and aVF, consistent with an inferior wall myocardial infarction. The patient is transferred to the cardiac catheterization laboratory for primary percutaneous coronary intervention (PPCI). During the procedure, a 75% stenosis is identified in the proximal right coronary artery (RCA). A drug-eluting stent is implanted, and the patient is discharged on dual antiplatelet therapy (aspirin and clopidogrel) and beta-blockers.

**ANSWER**  
The patient's presentation is consistent with an acute myocardial infarction (MI) due to a proximal RCA stenosis. The ECG findings of ST-segment elevation in leads II, III, and aVF confirm an inferior wall MI. The patient's history of hypertension and hyperlipidemia, along with his smoking status, are significant risk factors for atherosclerotic disease. The initial management with aspirin, nitroglycerin, and morphine is appropriate for the acute phase of the MI. The decision to proceed with PPCI is indicated given the patient's symptoms and ECG findings. The identification of a 75% stenosis in the proximal RCA during the procedure is a critical finding. The implantation of a drug-eluting stent is a standard approach for such lesions. The patient's discharge on dual antiplatelet therapy and beta-blockers is in accordance with current guidelines for the management of acute MI. The patient's vital signs and physical examination findings are consistent with a stable patient after the procedure. The patient's history of smoking and family history of premature CAD are important for long-term risk stratification and secondary prevention.

**QUESTION**  
A 45-year-old female patient with a long history of rheumatoid arthritis (RA) presents to the emergency department with acute shortness of breath and chest pain. The patient reports a 2-week history of increasing dyspnea and a recent episode of hemoptysis. She is currently on chronic low-dose prednisone and hydroxychloroquine. Her vital signs are: heart rate 110 bpm, blood pressure 150/90 mmHg, respiratory rate 24 breaths per minute, and oxygen saturation 88% on 2L oxygen. Physical examination reveals hyperinflation of the lungs, decreased breath sounds, and a hyperresonant chest. The patient is administered oxygen and morphine. A chest X-ray shows hyperinflation and a small right-sided pleural effusion. The patient is transferred to the emergency department for further evaluation. A CT scan of the chest shows a large, wedge-shaped consolidation in the right lower lung field, consistent with a pulmonary embolism (PE). The patient is administered intravenous heparin and transferred to the medical intensive care unit (ICU) for further management.