

QUESTION A 60-year-old man with a long history of smoking presents with a 2-week history of coughing up blood. He has lost weight and has a persistent cough. A chest X-ray shows a mass in the right lung. What is the most likely diagnosis?

- ANSWERS**
1. Lung cancer
 2. Tuberculosis
 3. Bronchitis
 4. Pneumonia
 5. Haemoptysis

ANSWER 1. Lung cancer



The patient's symptoms and chest X-ray findings are highly suggestive of lung cancer. The most common type of lung cancer is non-small cell lung cancer (NSCLC), which accounts for about 85% of all lung cancer cases. The patient's long history of smoking is a major risk factor for NSCLC. The symptoms of coughing up blood (haemoptysis), weight loss, and a persistent cough are common in lung cancer. The chest X-ray finding of a mass in the right lung is also consistent with a lung tumor. Tuberculosis, bronchitis, pneumonia, and haemoptysis are less likely diagnoses in this patient. Tuberculosis is more common in younger patients and is often associated with a history of exposure to someone with tuberculosis. Bronchitis is a common respiratory condition, but it is usually associated with a chronic cough and sputum production, rather than haemoptysis and weight loss. Pneumonia is an acute infection of the lung, and it is usually associated with fever, cough, and sputum production. Haemoptysis is a symptom of lung cancer, but it is not a diagnosis in itself.

REASONING IN THIS CASE

- 1. Lung cancer** The patient's symptoms and chest X-ray findings are highly suggestive of lung cancer. The most common type of lung cancer is non-small cell lung cancer (NSCLC), which accounts for about 85% of all lung cancer cases. The patient's long history of smoking is a major risk factor for NSCLC. The symptoms of coughing up blood (haemoptysis), weight loss, and a persistent cough are common in lung cancer. The chest X-ray finding of a mass in the right lung is also consistent with a lung tumor.
- 2. Tuberculosis** Tuberculosis is more common in younger patients and is often associated with a history of exposure to someone with tuberculosis. The patient's symptoms and chest X-ray findings are not typical of tuberculosis.
- 3. Bronchitis** Bronchitis is a common respiratory condition, but it is usually associated with a chronic cough and sputum production, rather than haemoptysis and weight loss.
- 4. Pneumonia** Pneumonia is an acute infection of the lung, and it is usually associated with fever, cough, and sputum production. The patient's symptoms and chest X-ray findings are not typical of pneumonia.
- 5. Haemoptysis** Haemoptysis is a symptom of lung cancer, but it is not a diagnosis in itself.