

EXAMINATION

1. The patient is a 45-year-old male with a long history of hypertension and a recent diagnosis of type 2 diabetes. He is currently on treatment with lisinopril and metformin. He presents with a 2-week history of increasing fatigue, weight loss, and a persistent cough. He has no hemoptysis, chest pain, or night sweats. His physical examination is unremarkable. His chest X-ray shows a small, well-defined nodule in the upper lobe. His sputum culture is negative for acid-fast bacilli. His tuberculin skin test is positive. His hemoglobin is 12 g/dL, hemocrit is 38%, and hematocrit is 42%. His white blood cell count is 10,000/mm³ with a normal differential. His serum electrolytes, renal function, and liver function tests are within normal limits. His fasting glucose is 120 mg/dL and his HbA1c is 7.5%.

Test	Result	Reference Range
Hemoglobin	12 g/dL	13.5-15.5 g/dL
Hematocrit	38%	42-54%
White blood cell count	10,000/mm ³	4,800-10,800/mm ³
Serum electrolytes	Normal	Na ⁺ 136-145 mEq/L, K ⁺ 3.5-5.0 mEq/L, Ca ²⁺ 8.8-10.0 mg/dL
Renal function	Normal	BUN 7-20 mg/dL, Creatinine 0.6-1.2 mg/dL
Liver function tests	Normal	ALT 7-40 U/L, AST 7-40 U/L, ALP 40-120 U/L, Bilirubin 0.1-1.2 mg/dL
Fasting glucose	120 mg/dL	70-100 mg/dL
HbA1c	7.5%	5.7-7.0%

QUESTION

Which of the following is the most likely diagnosis for this patient's cough and weight loss?

A. Tuberculosis

B. Lung cancer

C. Fungal infection

D. Bacterial pneumonia

E. Interstitial lung disease