

### QUESTION

A 65-year-old male patient with a long history of hypertension and a recent diagnosis of type 2 diabetes mellitus is being treated with lisinopril and metformin. He has been experiencing increasing fatigue and weakness over the past few weeks. His physical examination is unremarkable, and his laboratory tests show a hemoglobin level of 10 g/dL, a hematocrit of 30%, and a mean corpuscular volume (MCV) of 80 fL. His serum ferritin is 100 ng/mL, and his serum iron is 150 µg/dL. His total iron-binding capacity (TIBC) is 300 µg/dL, and his transferrin saturation is 20%. His renal function is normal, and his liver function tests are within normal limits. What is the most likely cause of his anemia?

- A) Iron deficiency anemia
- B) Vitamin B12 deficiency
- C) Folate deficiency
- D) Chronic kidney disease
- E) Hemolytic anemia

ANSWER: A) Iron deficiency anemia

### EXPLANATION



The patient's anemia is characterized by a low hemoglobin level (10 g/dL), a low hematocrit (30%), and a low mean corpuscular volume (MCV) of 80 fL, indicating a microcytic anemia. The low ferritin level (100 ng/mL) and low serum iron (150 µg/dL) are consistent with iron deficiency. The high total iron-binding capacity (TIBC) of 300 µg/dL and low transferrin saturation (20%) further support the diagnosis of iron deficiency anemia. The patient's symptoms of fatigue and weakness are also consistent with iron deficiency anemia. The other options are less likely because the patient's physical examination and laboratory tests do not show evidence of vitamin B12 deficiency, folate deficiency, chronic kidney disease, or hemolytic anemia.