

QUESTION
 A 60-year-old male patient with a long history of hypertension and hyperlipidemia presents to the clinic with a 2-week history of increasing fatigue, weight loss, and decreased appetite. He reports feeling "worn out" most of the day. Physical examination reveals a pale conjunctiva and mild tachycardia. Laboratory studies show a hemoglobin of 10 g/dL, hematocrit of 30%, and a mean corpuscular volume (MCV) of 80 fL. Serum ferritin is 100 ng/mL, and serum iron is 150 µg/dL. The patient is started on oral iron therapy.

Which of the following is the most likely cause of the patient's anemia?
 A. Iron deficiency anemia
 B. Vitamin B12 deficiency
 C. Folate deficiency
 D. Chronic kidney disease
 E. Hemolytic anemia

ANSWER
 The correct answer is A. Iron deficiency anemia. The patient's symptoms and laboratory findings are consistent with iron deficiency anemia. The low hemoglobin, hematocrit, and MCV (microcytic anemia) are characteristic. The elevated serum ferritin (100 ng/mL) and low serum iron (150 µg/dL) suggest a mixed picture, but the clinical context of chronic disease and the response to iron therapy support iron deficiency.

EXPLANATION
 The patient's anemia is most likely due to iron deficiency. The laboratory findings show a microcytic anemia (MCV 80 fL) with a low hemoglobin (10 g/dL) and hematocrit (30%). The elevated serum ferritin (100 ng/mL) and low serum iron (150 µg/dL) are consistent with iron deficiency. The patient's symptoms of fatigue, weight loss, and decreased appetite are also consistent with iron deficiency anemia.