

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 most recent laboratory tests show a hemoglobin level of 10.5 g/dL, a hematocrit of 32%, and a mean corpuscular volume (MCV) of 85 fL. The patient's diet is generally healthy but he has been eating less recently due to his symptoms.

ANSWER

Parameter	Value	Reference Range
Hemoglobin (Hb)	10.5 g/dL	13.5-15.5 g/dL
Hematocrit (Hct)	32%	40-50%
Mean Corpuscular Volume (MCV)	85 fL	80-100 fL
Red Blood Cell Count (RBC)	12.5 x 10 ¹² /L	4.5-5.5 x 10 ¹² /L
White Blood Cell Count (WBC)	7.5 x 10 ⁹ /L	4.0-11.0 x 10 ⁹ /L
Platelet Count	150 x 10 ⁹ /L	150-400 x 10 ⁹ /L
Iron	45 µg/dL	50-150 µg/dL
Transferrin Saturation	15%	20-50%
Serum Ferritin	100 µg/L	50-200 µg/L
Serum Vitamin B12	300 pg/mL	200-900 pg/mL
Serum Folate	12 ng/mL	7-25 ng/mL

ANSWERS

The patient's symptoms and laboratory findings are consistent with iron deficiency anemia. The low hemoglobin level, low hematocrit, and low MCV (microcytic anemia) are characteristic of this condition. The patient's diet, while generally healthy, may not be providing enough iron, especially if he has been eating less recently. The low iron level and low transferrin saturation further support the diagnosis of iron deficiency. The normal serum ferritin level suggests that the patient's iron stores are depleted. The normal serum vitamin B12 and folate levels rule out these causes of anemia.