

QUESTION

A 65-year-old man with a long history of hypertension and a recent diagnosis of type 2 diabetes mellitus presents to his primary care physician with a 3-month history of increasing fatigue, weight loss, and decreased appetite. He reports that he has lost approximately 15 pounds (7 kg) over this period. His medical history is notable for hypertension, type 2 diabetes mellitus, and a recent diagnosis of hyperthyroidism. He is currently taking lisinopril for hypertension, metformin for diabetes, and levothyroxine for his hyperthyroidism. He has no other significant medical history and is on no other medications. His physical examination is unremarkable, and his laboratory studies are as follows:

Test	Result	Reference Range
Hemoglobin (Hb)	12.5 g/dL	13.5-15.5 g/dL
Hematocrit (Hct)	38%	41%-53%
Mean Corpuscular Volume (MCV)	100 fL	82-101 fL
Red Blood Cell Count (RBC)	4.2 million/mm ³	4.5-5.8 million/mm ³
White Blood Cell Count (WBC)	10,000/mm ³	4,000-11,000/mm ³
Platelet Count	150,000/mm ³	150,000-450,000/mm ³
Serum Ferritin	50 ng/mL	50-200 ng/mL
Serum Transferrin Receptor (sTfR)	2.5 mg/L	0.5-2.0 mg/L
Serum Iron	100 µg/dL	50-150 µg/dL
Serum Total Iron-Binding Capacity (TIBC)	350 µg/dL	250-350 µg/dL
Serum Transferrin Saturation (TSAT)	28%	20%-50%

Based on the patient's history and laboratory findings, which of the following is the most likely cause of his anemia?

ANSWER



The most likely cause of his anemia is iron deficiency anemia.

The patient's laboratory findings are consistent with iron deficiency anemia, which is characterized by a microcytic, hypochromic anemia. The key findings include a low hemoglobin level (12.5 g/dL), a low hematocrit (38%), and a low mean corpuscular volume (MCV) of 100 fL. The red blood cell count is also low (4.2 million/mm³). The serum ferritin level is low (50 ng/mL), and the serum transferrin receptor (sTfR) level is elevated (2.5 mg/L). The serum iron level is low (100 µg/dL), and the serum total iron-binding capacity (TIBC) is normal (350 µg/dL). The serum transferrin saturation (TSAT) is low (28%).