

QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the clinic with a 3-month history of progressive weakness and fatigue. He reports that he has lost approximately 15 pounds (7 kg) over this period. He also complains of frequent urination and increased thirst. His medical history is significant for type 2 diabetes mellitus, which was diagnosed 10 years ago and is currently managed with insulin therapy. He has no known allergies and is on no other medications.

On physical examination, the patient appears thin and is in good spirits. His vital signs are stable. There is no tachycardia or tachypnea. The lungs are clear to auscultation. The heart rate is regular. The abdomen is soft and non-tender. There is no peripheral edema. The patient's blood glucose level is 180 mg/dL (10.0 mmol/L) on admission.

Initial laboratory studies show a hemoglobin A1c of 9.5%, serum sodium of 130 mEq/L (3.5 mmol/L), and serum potassium of 3.0 mEq/L (3.0 mmol/L).

ANSWER

The patient's clinical presentation and laboratory findings are consistent with uncontrolled type 2 diabetes mellitus. The symptoms of weakness, fatigue, weight loss, polyuria, and polydipsia are classic for hyperglycemia. The physical examination and laboratory studies further support this diagnosis. The patient's hemoglobin A1c is significantly elevated, indicating poor long-term glycemic control. The serum sodium and potassium levels are within normal limits, but the potassium level is at the lower end of the normal range.

The most likely cause of the patient's symptoms is hyperglycemia. High blood glucose levels lead to osmotic diuresis, which results in increased urination and thirst. Additionally, hyperglycemia can lead to dehydration, which can cause weakness and fatigue. The weight loss is likely due to the body's inability to utilize glucose for energy, leading to the breakdown of muscle and fat stores.

The patient's medical history and current medications are consistent with the diagnosis. The patient has a long history of hypertension and hyperlipidemia, which are common comorbidities in patients with type 2 diabetes. The patient is currently managed with insulin therapy, but the hemoglobin A1c suggests that the current treatment is not adequately controlling his blood glucose levels.

The initial laboratory studies show a hemoglobin A1c of 9.5%, which is significantly elevated. The serum sodium level is 130 mEq/L (3.5 mmol/L), which is within the normal range. The serum potassium level is 3.0 mEq/L (3.0 mmol/L), which is at the lower end of the normal range. The patient's blood glucose level on admission is 180 mg/dL (10.0 mmol/L), which is also elevated.