

**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 reports feeling increasingly fatigued and has noticed some swelling in his lower extremities. His blood pressure is 150/95 mmHg, heart rate is 78 bpm, and oxygen saturation is 96% on room air. Physical examination reveals bilateral lower-extremity edema and a clear lung field. Laboratory tests show a serum sodium of 132 mEq/L, serum potassium of 3.8 mEq/L, and a serum creatinine of 1.8 mg/dL.

**ANSWER**  
 The patient's symptoms and physical findings are consistent with fluid overload, likely due to the combination of hypertension and heart failure. The elevated blood pressure and lower-extremity edema suggest a volume overload state. The clear lung field and normal oxygen saturation indicate that the fluid overload is primarily peripheral rather than pulmonary. The laboratory findings, including hyponatremia and a slightly elevated creatinine, further support the diagnosis of heart failure.

**EXPLANATION**  
 The patient's clinical presentation is characteristic of heart failure with volume overload. The combination of hypertension and heart failure can lead to a volume overload state, resulting in symptoms such as fatigue and lower-extremity edema. The physical findings of bilateral lower-extremity edema and a clear lung field are consistent with this diagnosis. The laboratory findings, including hyponatremia and a slightly elevated creatinine, further support the diagnosis of heart failure.

## KEY POINTS

- 1. Heart failure with volume overload can present with symptoms such as fatigue and lower-extremity edema.
- 2. Physical findings of bilateral lower-extremity edema and a clear lung field are consistent with this diagnosis.
- 3. Laboratory findings, including hyponatremia and a slightly elevated creatinine, further support the diagnosis of heart failure.

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