

### QUESTION

1. A patient with a long history of chronic kidney disease (CKD) is admitted to the hospital with a severe case of acute kidney injury (AKI). The patient's serum creatinine has risen from a baseline of 2.5 mg/dL to 4.5 mg/dL over the last 48 hours. The patient is currently on a low-protein diet and has been receiving intravenous fluids. The patient's blood pressure is 180/100 mmHg, and they are experiencing oliguria (urine output < 0.3 mL/kg/hour).

Parameter	Value
Serum Creatinine	4.5 mg/dL
Blood Pressure	180/100 mmHg
Urine Output	0.2 mL/kg/hour
Serum Potassium	5.5 mEq/L
Serum Sodium	135 mEq/L
Serum Calcium	8.5 mg/dL
Serum Phosphorus	4.5 mg/dL
Serum Urea Nitrogen	25 mg/dL

2. The patient's condition is worsening, and the medical team is considering dialysis. The patient's family is concerned about the risks and benefits of dialysis and is seeking your advice.

### ANSWER

1. The patient's AKI is likely due to a combination of factors, including chronic kidney disease, hypertension, and oliguria. The patient's blood pressure is significantly elevated, which can contribute to AKI. The patient's oliguria suggests a severe form of AKI, possibly acute tubular necrosis (ATN). The patient's serum creatinine has risen from a baseline of 2.5 mg/dL to 4.5 mg/dL, indicating a significant increase in kidney injury. The patient's serum potassium is elevated at 5.5 mEq/L, which is a common complication of AKI. The patient's serum sodium is 135 mEq/L, which is within the normal range. The patient's serum calcium is 8.5 mg/dL, which is slightly below the normal range. The patient's serum phosphorus is 4.5 mg/dL, which is within the normal range. The patient's serum urea nitrogen is 25 mg/dL, which is elevated. The patient's condition is worsening, and the medical team is considering dialysis. The patient's family is concerned about the risks and benefits of dialysis and is seeking your advice.

2. The risks of dialysis include hypotension, electrolyte imbalances, and infection. The benefits of dialysis include removing toxins and excess fluid, and improving the patient's overall health. The patient's family should be informed of the risks and benefits of dialysis and should be encouraged to discuss their concerns with the medical team.