

[illegible]

QUESTION

What is the most common cause of a patient with a history of chronic kidney disease (CKD) presenting with acute kidney injury (AKI)?

ANSWER

1. Acute tubular necrosis (ATN)

EXPLANATION

1. Acute tubular necrosis (ATN) is the most common cause of AKI in patients with CKD. It is characterized by a sudden decline in renal function, often due to ischemia or nephrotoxic agents. The pathophysiology involves tubular cell injury and necrosis, leading to impaired tubular function and increased permeability. Common precipitating factors include hypotension, sepsis, and the use of nephrotoxic drugs.

2. Prerenal azotemia is a condition where AKI is caused by decreased renal perfusion. It is often reversible and can be managed by addressing the underlying cause of hypoperfusion, such as volume resuscitation or treatment of heart failure.

3. Postrenal azotemia is caused by obstruction of the urinary tract, leading to backpressure and renal injury. Common causes include benign prostatic hyperplasia, kidney stones, or tumors. Prompt identification and relief of the obstruction are crucial for recovery.

4. Glomerular diseases, such as glomerulonephritis, can cause AKI. These conditions involve inflammation and damage to the glomeruli, leading to impaired filtration. They often require immunosuppressive therapy and close monitoring.

5. Drug-induced AKI is a significant cause, particularly with the use of NSAIDs, antibiotics, and contrast agents. Careful medication management and monitoring of renal function are essential to prevent this complication.

QUESTION

Which of the following is the correct IUPAC name for the compound shown?

ANSWER

2,3-dimethylpentane