

Strategies to Prevent Acute Kidney Injury and Dialysis-Requiring Acute Kidney Injury in Patients with HIV



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Case Study

Background

- A 43-year-old client has a history of HIV, HTN, MI, and type 2 DM.
- The client takes metformin, aspirin, amlodipine, atenolol, and HAART medications as prescribed.
- The client has been feeling ill for one week (running a fever and coughing up phlegm).
- The client also reports a decrease in urination after a heart catheterization one week ago.

Assessment

- BP 85/50, HR 115, O₂ Sats 96% on 2LNC, RR 25, Temp 100.6°F.

Labs/Diagnostics

- Na⁺ 131, K⁺ 4.7, Bun 68.3, Cr 3.4.
- CXR confirms pneumonia.

Objectives

- Understand the etiology of AKI in patients with HIV
- Describe ways to prevent AKI and dialysis-requiring AKI in patients with HIV

Background

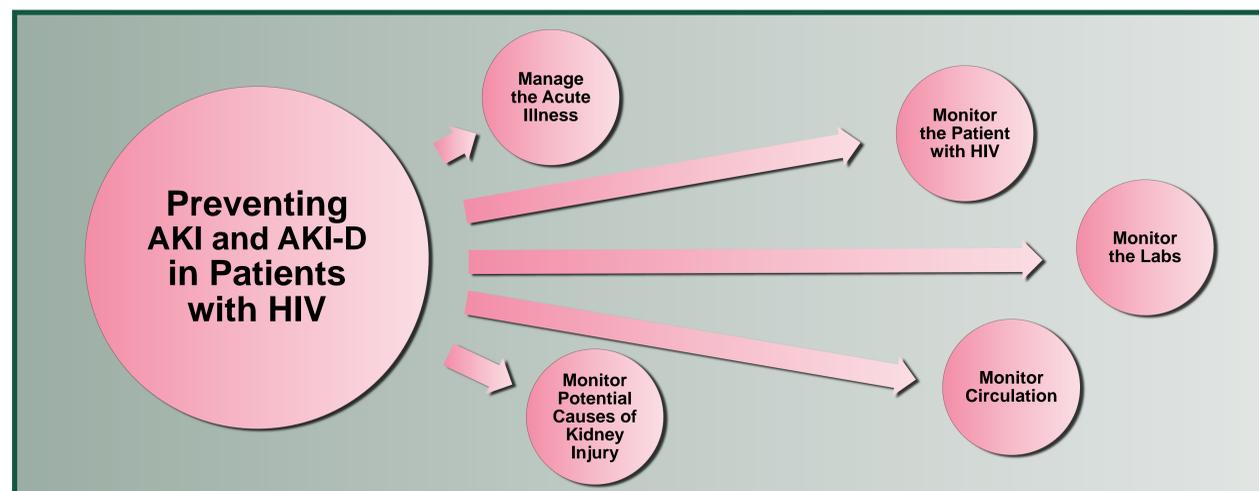
- The incidence of acute kidney injury (AKI) continues to increase in patients with human immunodeficiency virus (HIV).¹
- Hospitalized patients with HIV require nurses to be knowledgeable of causes, complications, and interventions to prevent AKI and dialysis-requiring AKI (AKI-D).

Problem

AKI is a common complication in patients with HIV and is associated with increased hospital stay, risk of poor patient outcomes, and mortality. Highly active antiretroviral therapy (HAART) has improved long-term outcomes of patients with HIV, but the incidence of AKI and AKI-D among hospitalized adults continues to increase.²

Discussion

- There are numerous causes of AKI and AKI-D.
- In one study among patients with HIV, the most common causes of AKI were sepsis (59%), nephrotoxic drug administration (37.5%), volume depletion (21.6%), and radiocontrast use (20.5%).¹
- The increased incidence of AKI and AKI-D in patients with HIV is associated with the patient's age, severity of an acute illness, and chronic comorbidities (e.g., diabetes, heart disease, and hepatitis).³



Conclusion

- Strategies to prevent AKI and AKI-D in patients with HIV require prompt assessment, recognition of conditions causing further deterioration, and medical and nursing management.
- It is important for nurses to translate the knowledge of nephrology into practice and think critically when providing care to patients with HIV in order to minimize the risk of AKI and prevent complications associated with AKI-D.



Outcomes

- To prevent underlying renal insufficiency problems in patients with HIV, the inter-professional team needs to be aware of the patient's kidney health, risk factors of kidney disease, and HIV-related risk factors to prevent AKI and AKI-D.
- To prevent complications, the nurse needs to be able to assess the patient for proper fluid management, daily weights, blood pressure management, nutritional support, avoidance of nephrotoxic agents and procedures that use contrast dye, treatment of infections, and removal of unnecessary lines and tubes to prevent hospital-acquired infections.

References

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