Renal Disease in HIV and Aging

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Educational Objectives
By the end of the session, learners will be able to:

1. Outline risk factors for chronic kidney disease (CKD) in HIV-infected patients.
2. Form the differential diagnosis of CKD in HIV-infected patients.
3. Describe the workup and management of HIV-associated nephropathy (HIVAN).

Suggested reading:

CASE ONE:

Mr. Creatinine is a 55-year-old African American man who just moved to your town and comes to establish care at your clinic. He was diagnosed with HIV many years ago but did not follow up with his HIV provider due to complicated social issues. Now that he moved to live with his daughter and things are more stable, he looks forward to taking care of his HIV. He has never been on ART. Otherwise, he has a history of hypertension, diabetes and hepatitis C. He is not taking any medications since he has not seen a doctor for a while.

He is afebrile, BP127/80, pulse 78, oxygen saturation 98% on room air. Physical exam is unremarkable. Labs show CD4 of 55 cells/mm³, viral load 400,000 copies/mL, creatinine 2.85 mg/dL, eGFR 28.3 mL/min with normal electrolytes, hemoglobin A1C 5.9%. Last year his Cr was 1.75 mg/dL, eGFR 49.6 mL/min.
Questions:

1. What is the definition of chronic kidney disease (CKD)?

2. How common is CKD in HIV-infected patients?

3. What are HIV-related risk factors for CKD?

4. What is the differential diagnosis of CKD in HIV-infected patients? Which one do you think is the cause of Mr. Creatinine’s CKD?

5. What is the pathogenesis of HIVAN?

6. What workup would you perform for Mr. Creatinine? How would you establish diagnosis?

CASE ONE CONTINUED:

After a 24-hour urine collection, Mr. Creatinine is found to have a protein excretion of 2.5g/day and albumin excretion of 300mg/day. Kidney biopsy shows a collapsing form of focal segmental glomerulosclerosis with tubular microcysts and interstitial inflammation. He is diagnosed with HIVAN.

7. What pharmacologic treatment would you recommend?

8. How would you monitor treatment?

9. When would you refer him to a nephrologist?

CASE ONE CONTINUED:

You decide to start Mr. Creatinine on dolutegravir, abacavir and lamivudine. You also start him on lisinopril 5mg daily, along with statin and aspirin. He will also continue to see the nephrologist who performed his kidney biopsy. You plan to have a discussion regarding goals of care to see whether dialysis would be consistent with his wishes. You wonder about the prognosis for this kidney disease, since this information will help guide your discussion with Mr. Creatinine.

10. What is the prognosis for Mr. Creatinine with HIVAN?
Additional reference: