

RENAL TUBULAR ACIDOSIS WITH FANCONI SYNDROME ASSOCIATED WITH TENOFOVIR.

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A 69 year old Caucasian female with a history of HIV, hepatitis C, diabetes mellitus was admitted to the hospital for severe anemia and acute kidney injury on CKD (baseline creatinine 1.4 mg/dl). On admission, she had a normal anion gap metabolic acidosis (HCO_3^- 15 mmol/L, Cl 111 mmol/L, Na 138 mmol/L), hypokalemia 3.3 mmol/L, hypophosphatemia 1.7 mmol/L, elevated creatinine 3.6 mg/dl and glucosuria despite normal serum glucose. With no recent diarrhea, urinary anion gap of 47 in the setting of a normal fractional excretion of sodium provided evidence that urinary ammonium excretion was impaired. With a normal anion gap metabolic acidosis with impaired ammonium excretion, hypokalemia, hypophosphatemia and glucosuria, a diagnosis of proximal renal tubular acidosis (RTA) with Fanconi syndrome was made. Multiple myeloma, the most common cause of proximal RTA in persons of her age, was excluded based on a recent bone marrow biopsy. The patient had been on antiretroviral (HAART) therapy consisting of truvada (emtricitabine and tenofovir), ritonavir and atazanavir for several months. It was felt her proximal RTA with Fanconi syndrome was most likely a result of Tenofovir and HAART was discontinued. Her hypokalemia was treated with scheduled potassium supplements, the metabolic acidosis with IV fluids, sodium bicarbonate and her HAART regimen was stopped until seen by her infectious disease physician.

Proximal (type 2) RTA is uncommon in adults and results from impaired bicarbonate reabsorption at the proximal tubules. Normal anion gap metabolic acidosis with impaired ammonium excretion and hypokalemia are typically seen. Fanconi syndrome may also occur. It is diagnosed by glucosuria despite normal serum glucose, hypophosphatemia and hypouricemia. Tenofovir, a reverse transcriptase inhibitor, is 70-80% renally excreted. Because patients with HIV are living much longer now as the therapy for this disease has continued to improve, physicians must familiarize themselves with the potential side effects of the HAART regimen medicines, including proximal RTA and Fanconi syndrome.