

Hyperkalemia in a patient with AIDS

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A 45 year old man with type 2 diabetes mellitus for 10 years, hypertension for 3 years and AIDS which was discovered 6 months ago, was admitted to the hospital with PCP pneumonia. Diabetes had been treated with glyburide 5 mg BID, and hypertension with Norvasc(amlodipine) 10 mg OD. The laboratory data on admission were : serum Na 134 meq/L, serum K 5.4 meq/L, serum Cl 105 meq/L, and total CO₂ 22 mmol/L, serum urea nitrogen 35 mg/dl, and serum creatinine 2.2 mg/dl. Following admission, the patient was started on Bactrim(sulfamethoxazole and trimethoprim) iv to treat PCP pneumonia. Three days later, the laboratory tests were repeated: serum Na 132 meq/L, serum K 6.2 meq/L, serum Cl 110 meq/L, and total CO₂ 18 mmol/L. Electrolytes in random urine samples on admission were Na 30 meq/L, K 20 meq/L, and creatinine 70 mg/dl. A day after bactrim was started the urine tests showed 120 meq/L, 10 meq/L, and 70 mg/dl for Na, K, and creatinine respectively.

Questions :

1. When the patient presented to the hospital, did he appear to have any underlying disorders on potassium metabolism? What levels of PRA and aldosterone would you predict?
2. Are you surprised to see that urinary K excretion decreased further even though urinary Na excretion increased after Bactrim was started?
3. If you suspect that Bactrim is causally related to hyperkalemia, would it be a good idea to switch to pentamidine to treat PCP pneumonia?
4. If you wish to continue using Bactrim to treat the pneumonia, what specific measures can you undertake to counteract the Bactrim effect on the kidney?

REFERENCES

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