Obstructive Renal Failure due to Therapy with Sulfadiazine in an AIDS Patient

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Dear Sir,

Toxoplasmosis is one of the most common opportunistic infections in AIDS patients, and the treatment of choice is the synergistic combination of sulfadiazine and pyrimethamine for a prolonged period. Crystalluria and acute renal failure due to sulfadiazine have been described by several authors [1,2]. We report a case of obstructive renal failure due to the administration of sulfadiazine that resolved with rapid infusion of intravenous sodium bicarbonate and fluids without discontinuation of sulfadiazine therapy.

A 35-year-old female AIDS patient was referred for evaluation of generalized seizure and weakness of the right arm that presented 3 days before admission. When she was admitted, her serum creatinine level was 0.6 mg%; total serum protein; 7.3 g%; albumin: 4.2%; globulin: 3.1 g%; hemoglobin level: 13.6 g/dl; hematocrit: 41%; normal urinalysis. Serology for toxoplasmosis was: IgG 1/2,048 and negative IgM. Cerebrospinal fluid examination showed only anti-HIV I (Elisa) positivity and IgG 11.6%. Computed tomography scan revealed contrast enhancing left cerebral lesion.

On day 3 hospitalization, she presented an other episode of generalized seizure and developed right hemiplegia. Oral sulfadiazine (1.0 g every 6 h), oral pyrimethamine (25 mg daily) and folic acid were begun for suspected toxoplasmosis.

On day 7 of therapy, she presented abdominal pain, dysuria and oliguria (36-hour urine output: 300 ml). Serum creatinine was 3.9 mg%; urinalysis revealed sulfa crystals and numerous red blood cells per high-power field, and renal ultrasound detected bilateral lithiasis with moderate hydronephrosis. Administration of intravenous sodium bicarbonate, 3 liters of fluids and furosemide (20 mg every 6 h) were begun, without discontinuation of sulfadiazine. After few days of therapy, renal function returned to a normal level and she was discharged on day 19 of therapy with partial remission of neurologic signs; serum creatinine was 0.6 mg%, and she had normal urinalysis without the presence of sulfa crystals. Obstructive acute renal failure associated with sulfadiazine has been previously described due to the low solubility of the sulfonamides as well as under appropriated conditions, such as dehydration and hypoalbuminemia [3]. However, with adequate hydration and alkalization of urine, renal failure may be resolved without discontinuation of sulfadiazine. Physicians using sulfadiazine for the treatment of toxoplasmosis should be aware of the risk for crystalluria and renal failure, especially during

the first weeks of therapy. Patients should be instructed to maintain adequate hydration, and administration of alkali should be considered.

References

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