Acute Oxalate Nephropathy Diagnosed by Renal Biopsy

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A 42-year-old man with no past medical history presented with recurrent generalized tonic clonic seizures and was intubated on site. He was fatigued and had a headache for a few days prior to presentation. Physical examination revealed a sedated patient on mechanical ventilator, otherwise insignificant. Laboratory data was significant for serum creatinine 8.8 mg/dL (0.6-1.2), blood urea nitrogen 74 mg/dL (8-24), serum bicarbonate 13 meq/dL (22-24), anion gap 22 (8-12), and osmolal gap 14 mmol/L. Urine toxicology, serum salicylates and serum alcohol levels were negative. Renal biopsy surprisingly showed acute tubular necrosis with diffuse calcium oxalate crystals that were positively birefringent on polarized light (Picture 1, 2).

Urine analysis rarely shows calcium oxalate crystals in acute oxalate nephropathy (AON) (1). The present case illustrates that renal biopsy can sometimes be the only diagnostic clue for AON. The exact cause of oxalate nephropathy could not be determined in our patient even after thorough work up.

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Reference