

## 20. SUNITINIB-INDUCED ACUTE INTERSTITIAL NEPHRITIS

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A 69-year-old male with history of stage IV left kidney clear cell carcinoma presented with four-day history of gross hematuria, fever of 101.4F and fatigue. He had been started on Sunitinib, a VEGF Tyrosine Kinase Inhibitor (TKI) two weeks ago. Vitals were significant for systolic BP of 160. Renal ultrasound showed perinephric hematoma. Labs were significant for platelets of 68,000, sodium of 120 and creatinine of 2.7 (baseline creatinine of 1.0). Urine sodium was less than 10. 24 hours urine protein was 484 mg. Peripheral smear was negative for schistocytes. Renal biopsy performed after platelet infusion showed extensive interstitial inflammation with frequent eosinophils and interstitial edema, consistent with drug-induced acute interstitial nephritis. He was started on oral steroids and required intermittent hemodialysis.

**DISCUSSION:** This report describes the second known case of biopsy-proven Sunitinib-induced Acute interstitial nephritis. Similar case reports involving the VEGF-targeting drugs Sorafenib (TKI), and Bevacizumab (monoclonal antibody) imply a class effect. Previously reported renal adverse events of Sunitinib include hyper-tension, proteinuria, renal insufficiency, and thrombotic microangiopathy; all present in this case except thrombotic microangiopathy. Thus, thrombocytopenia in this case may be secondary to bone marrow suppression.

Interestingly, while Sunitinib is also used for the treatment of GastroIntestinal Stromal Tumor (GIST) and Pancreatic Neuroendocrine Tumors (PNET); thus far, cases of Sunitinib-induced AIN have only been described in patients with metastatic Renal Cell Carcinoma.

Given the risk of bleeding associated with a renal biopsy in the setting of thrombocytopenia on one hand; and the lethal complications that may ensue from delayed diagnosis and the possibility of permanent dialysis associated with AIN on the other, the decision to proceed with a renal biopsy is a controversial one and must be weighed carefully.

**CONCLUSION:** While Sunitinib-induced AIN is exceedingly rare, it should be considered in patients with acute renal failure. Given the literature implicating VEGF-targeting drugs in cases of AIN, further study is required to elicit the link between the VEGF pathway and AIN.