Learning Objectives

- Etiologies of acute interstitial nephritis (AIN) include autoimmune, idiopathic, allergic and drug induced.
- Most common cause of AIN is drug induced (DI-AIN); penicillins being the most common medication.
- AIN leads to acute kidney injury (AKI) and ultimately chronic kidney disease (CKD).

Case Information

- A 63-year-old male admitted for atrial fibrillation with rapid ventricular response.
- History of hemiarthroplasty two months prior resulting in right hip wound.
- On a six-week course of vancomycin for treatment of cultures resulting in gram positive rods diphtheroid morphology, staphylococcus coagulase negative and staphylococcus lugdunensis.
- Shortly after admission patient developed erythematous rash and fever for which vancomycin was restarted.

Case Information

- Investigations:
  - Patient developed worsening AKI shortly after restarting vancomycin.
  - Complete blood count with differential showed initial eosinophil count of 0.75x10^3/µL which continued to rise to a maximum of 10.5 x10^3/µL.
  - Nephrology consulted and recommended renal biopsy due to worsening creatinine despite fluid resuscitation.
  - Renal biopsy demonstrated diffuse interstitial inflammatory cell infiltrate with numerous eosinophils consistent with AIN.

- Hospital Course:
  - Once AIN was suspected patient was treated with a three-day course of methylprednisolone 500mg daily followed by a three-day course of prednisone 60mg and tapered over time.
  - Eosinophil count immediately resolved over night after first dose of methylprednisolone and AKI began to resolve over several days.
  - Baseline creatinine prior to admission was 1.00 x10^3/µL. Maximum creatinine was 4.46 x10^3/µL but only resolved to 1.50x10^3/µL.

References