

Supplementary Methods

We conducted a retrospective case series using the renal biopsy database at Monash Health and Austin Health, which are both tertiary referral services in Melbourne, Australia. All patients with a kidney biopsy that included documentation of acute interstitial nephritis in the formal report between January 2011 and December 2017 were selected for analysis. Further clinical details including age, gender, symptoms, comorbidities, medications, and laboratory results were extracted from the electronic medical record. At both sites, hospital protocol meant that a pharmacist would routinely review the medications that patients took leading up to admission and document these in the medical record. The final diagnosis and etiology of AIN were defined by the documented assessment of the treating nephrologist after review with a renal pathologist at the renal biopsy case conference. All cases attributed to beta-lactam antibiotics demonstrated onset of AKI following beta-lactam use and had a Naranjo score > 4 .¹ The baseline serum creatinine was defined as the most recent result available prior to medication exposure. Acute kidney injury was defined as doubling of serum creatinine from baseline.² Measurements of serum creatinine were assessed up to 1 year after AKI onset, and the new baseline creatinine was defined by the last measured serum creatinine. At Austin health, episodes of exposure to future beta-lactam antibiotics and any adverse reactions was measured within the hospital pharmacy database and electronic medical record. At Monash health, episodes of future beta-lactam antibiotics were evaluated via electronic pharmacy dispensing records. Ethics approval was obtained for this study (EC00204 & HREC/17/AUSTIN/237). Data was analyzed with Stata 13.

1. Naranjo CA, Busto U, Sellers EM, et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther.* 1981;30(2):239-245.
2. Thomas ME, Blaine C, Dawnay A, et al. The definition of acute kidney injury and its use in practice. *Kidney Int.* 2015;87(1):62-73.