1505. Predictive Value of Early Post-Transplant Bacteriuria on Rates of Recurrent Urinary Tract Infections in the First Year After Renal Transplantation
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Background. Urinary tract infection (UTI) is a common post-kidney transplant complication that has been associated with risk for allograft dysfunction. However, prior studies assessing risk factors for recurrent post-transplant UTI (rUTI) did not distinguish between asymptomatic bacteriuria and UTI. We hypothesize that early asymptomatic bacteriuria (EAB) and UTI after renal transplant are risk factors for rUTI.

Methods. A single-center retrospective cohort study of renal transplant recipients at a tertiary care, academic medical center from May 1, 2010 to January 31, 2015. Data on epidemiology, comorbidities, donor cultures, number of UTIs, days of Foley catheter, current UTI, history of UTIs, and anti-infective therapy were obtained from electronic medical record and transplant patient database. Inclusion criteria: >18 years old post kidney transplant during the study period. Exclusion criteria: rUTI prior to transplant or anatomical abnormality of native kidney(s). Definitions: Early post-transplant (EPT): ≤28 days after transplant. Post-transplant: growth of >105 cfu/mL. UTI (fever, dysuria, +/−allograft or suprapubic pain) + positive culture. EAB-asymptomatic bacteriuria in the EPT period. rUTI: ≥3 UTIs in 1 year or 2 UTIs in 6 consecutive months within the year post-transplant. UTI episodes were considered separate if occurred >3 weeks after the previous episode of antibiotics. Data were analyzed by Fisher’s exact test and chi-square test.

Results. A total of 369 patients were included; 40.4% had EAB and 6% had a UTI in the EPT (eUTI). rUTI occurred in 5.7% of patients (n = 21). In the rUTI group, 5 (23.8%) had EAB, 8 (38.1%) had eUTI, and 5 (23.8%) had neither (P = 0.067). rUTI developed in 5.3% (8/149) of the EAB group vs. 36.4% (8/22) of the eUTI group (P < 0.005). No other variables were associated with rUTI. Total UTI episodes was greater with eUTI than EAB (mean 2.09 vs. 0.28, 95% CI 2.2–1.4, P < 0.005).

Conclusion. Only eUTI increased the risk for rUTI. Although screening for bacteriuria is a common practice post-transplant, our data indicates that aggressive symptombased screening would better predict likelihood of rUTI and in turn graft dysfunction. Future studies should address the potential benefit of prophylactic trimethoprim/sulfamethoxazole in preventing UTI.

Disclosures. All authors: No reported disclosures.

1506. Association of Antibiotic Treatment Duration with First Recurrence of Uncomplicated Urinary Tract Infection in Pediatric Patients
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Background. The optimal antibiotic (ABX) treatment duration for uncomplicated urinary tract infection (UTI) in pediatric patients is unknown. The objective of this study was to investigate the association of pediatric UTI treatment duration (7, 10, or 14 days) with infection recurrence or progression.

Methods. A retrospective cohort analysis of pediatric patients aged 2–17 years with a UTI diagnosis from January 1, 2011 to December 31, 2014 were included. ABX treatment duration ≥10 days within 90 days of first positive culture was defined as DNC and 8.6% were ordered without a UC. UTI recurrence or progression was defined as an additional UC for an episode of symptoms (UCs) favorable. However, unnecessary UCs can result in over-detection and over-treatment of asymptomatic bacteriuria (ASB). A previous analysis at the study site found that UCs were collected frequently despite negative urinalyses (UA), which commonly resulted in unnecessary antibiotics. Our objective was to compare the frequency of inappropriate UC utilization and inappropriate antibiotic prescribing post implementation of a “Urinalysis to Reflex Culture” process change intervention. A secondary objective was to assess the frequency of health encounters for UTIs post implementation.

Methods. After education, an ED process change was implemented in October 2017. This included automatic UC cancellation if UA had <5 WBC/HPF. An option for ASB-asymptomatic bladder culture (DNC) was also made available for repeat positive screening per guidelines. Data were prospectively collected for 3 months post-implementation and included UA/UC results, presence of UTI symptoms, antibiotics prescribed and healthcare utilization. Inappropriate UC was defined as a UC ordered despite negative asymptomatic bacteriuria (ASB) and presence prescribing was defined as treatment in patients with ASB. A Student's t-test and contingency tables were applied in SAS; significance was set at P ≤ 0.05.

Results. There were 684 UAIs (37.2% post-intervention) evaluated from ED visits. Positive cultures (n = 255 UAIs), 37.3% UAIs were negative with UCs cancelled. Of the remaining UAIs, 37.3% were positive with a processed UC, 16.9% were ordered as DNC and 8.6% were ordered without a UC. UC usage decreased after a negative UA significantly decreased from 100% pre-intervention to 38.6% post-intervention (P < 0.001). Inappropriate antibiotic therapy for ASB also decreased from 10.2% pre-intervention to 1.9% post-intervention (OR = 0.17; P < 0.0110). In patients with negative UAAs, antibiotic prescribing decreased by 25.3% post-intervention (P = NS). No reports of outpatient, ED, or hospital visits for UTI symptoms were found within 7 days of initial UTI post treatment.

Conclusion. A “UA to Reflex Culture” process change demonstrated a significant decrease in process of inappropriate UCs and unnecessary antibiotics for ASB. There were no missed UTIs or other adverse patient outcomes.

Disclosures. All authors: No reported disclosures.

1507. Evaluating the Effects of a “Urinalysis to Reflex Culture” Process Change in the Emergency Department (ED) at a Veterans Affairs (VA) Hospital
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Background. As UTI diagnosis date (OR = 1.44; 95% CI = 1.03–2.00); follow-up visit during ABX treatment with cystitis only. Defined as recurrence diagnosis of pyelonephritis in a patient originally diagnosed with first cystitis or pyelonephritis and without renal/anatomic abnormality was defined as recurrence diagnosis of pyelonephritis in a patient originally diagnosed with renal or 14 days) with infection recurrence or progression.

Methods. A single-center retrospective cohort study of renal transplant recipients at a tertiary care, academic medical center from May 1, 2010 to January 31, 2015. Data on epidemiology, comorbidities, donor cultures, number of UTIs, days of Foley catheter, current UTI, history of UTIs, and anti-infective therapy were obtained from electronic medical record and transplant patient database. Inclusion criteria: >18 years old post kidney transplant during the study period. Exclusion criteria: rUTI prior to transplant or anatomical abnormality of native kidney(s). Definitions: Early post-transplant (EPT): ≤28 days after transplant. Post-transplant: growth of >105 cfu/mL. UTI (fever, dysuria, +/−allograft or suprapubic pain) + positive culture. EAB-asymptomatic bacteriuria in the EPT period. rUTI: ≥3 UTIs in 1 year or 2 UTIs in 6 consecutive months within the year post-transplant. UTI episodes were considered separate if occurred >3 weeks after the previous episode of antibiotics. Data were analyzed by Fisher’s exact test and chi-square test. Results. A total of 369 patients were included; 40.4% had EAB and 6% had a UTI in the EPT (eUTI). rUTI occurred in 5.7% of patients (n = 21). In the rUTI group, 5 (23.8%) had EAB, 8 (38.1%) had eUTI, and 5 (23.8%) had neither (P = 0.067). rUTI developed in 5.3% (8/149) of the EAB group vs. 36.4% (8/22) of the eUTI group (P < 0.005). No other variables were associated with rUTI. Total UTI episodes was greater with eUTI than EAB (mean 2.09 vs. 0.28, 95% CI 2.2–1.4, P < 0.005).

Conclusion. Only eUTI increased the risk for rUTI. Although screening for bacteriuria is a common practice post-transplant, our data indicates that aggressive symptombased screening would better predict likelihood of rUTI and in turn graft dysfunction. Future studies should address the potential benefit of prophylactic trimethoprim/sulfamethoxazole in preventing UTI.