

**Conclusion.** Prevalence of ESBL UTIs among RTR are low at a tertiary Midwestern hospital.

**Disclosures.** All Authors: No reported disclosures

**1675. Epidemiology of Urinary Tract Infections in the United States, 2009 - 2018**

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**Session:** P-73. UTIs

**Background.** Urinary tract infections (UTIs) are one of the most common bacterial infections. There is a lack of large epidemiologic studies evaluating the etiologies of UTIs in the United States. This study aimed to determine the prevalence of different UTI-causing organisms and their antimicrobial susceptibility profiles among patients being treated in a hospital setting.

**Methods.** We used the Premier Healthcare Database. Patients with a primary diagnosis code of cystitis, pyelonephritis, or urinary tract infection and had a urine culture from 2009- 2018 were included in the study. Both inpatients and patients who were only treated in the emergency department (ED) were included. We calculated descriptive statistics for uropathogens and their susceptibilities. Multi-drug-resistant pathogens are defined as pathogens resistant to 3 or more antibiotics. Resistance patterns are also described for specific drug classes, like resistance to fluoroquinolones. We also evaluated antibiotic use in this patient population and how antibiotic use varied during the hospitalization.

**Results.** There were 640,285 individuals who met the inclusion criteria. Females make up 82% of the study population and 45% were age 65 or older. The most common uropathogen was *Escherichia Coli* (64.9%) followed by *Klebsiella pneumoniae* (8.3%), and *Proteus mirabilis* (5.7%). 22.2% of patients were infected with a multi-drug-resistant pathogen. We found that *E. Coli* was multi-drug resistant 23.8% of the time; *Klebsiella pneumoniae* was multi-drug resistant 7.4%; and *Proteus mirabilis* was multi-drug resistant 2.8%. The most common antibiotics prescribed were ceftriaxone, levofloxacin, and ciprofloxacin. Among patients that were prescribed ceftriaxone, 31.7% of them switched to a different antibiotic during their hospitalization. Patients that were prescribed levofloxacin and ciprofloxacin switched to a different antibiotic 42.8% and 41.5% of the time, respectively.

**Conclusion.** *E. Coli* showed significant multidrug resistance in this population of UTI patients that were hospitalized or treated within the ED, and antibiotic switching is common.

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**1676. Evaluation of Antibiotic Overuse for Asymptomatic Bacteriuria in a Hospital with Low Baseline Antibiotic Use**

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**Background.** In 2019, the Infectious Diseases Society of America published guidelines for the management of asymptomatic bacteriuria (ASB) with recommendations to avoid antimicrobial therapy in most patients. Denver Health has existing guidance for the management of patients with a urinary tract infection (UTI) and in August of 2019, implemented specific guidance for the management of ASB. As an institution, Denver Health has a Standardized Antimicrobial Administration Ratio (SAAR) of 0.8-0.9, suggesting a strong antimicrobial stewardship program with a ratio of < 1. The purpose of this study is to assess if signs and symptoms were present in patients prescribed an antibiotic for UTI.

**Methods.** We retrospectively identified hospitalized patients at least 18 years old who were prescribed an antibiotic with "UTI" as the indication from March 1<sup>st</sup> to

August 31<sup>st</sup>, 2019. Patients with catheter-associated UTIs were excluded. A random sample of 50 cases was manually reviewed for signs and symptoms of infection. Signs were considered fever, defined as at least 38°C or leukocytosis, defined as at least 10 k/uL WBC. Symptoms collected were based on documentation of patient reported dysuria, frequency, or urgency, or findings of hematuria. The primary outcome was proportion of patients prescribed an antibiotic for UTI in the absence of signs or symptoms. Prescribing patterns for choice and duration of antimicrobials were also surveyed.

**Results.** A total of 382 antibiotics were prescribed for UTI during the study period. Of the 50 cases reviewed, median age was 65.8 years, with 11% being male. Overall, 29 patients (58%) had no documented symptoms while being treated for UTI. Additionally, 22 patients (44%) had no documented fever, leukocytosis, or urinary symptoms. The most commonly prescribed antibiotics were cefdinir, fosfomycin, and nitrofurantoin. Tables 1 and 2 include additional findings.

Table 1 Symptomology and Type of UTI

Measurement	Result (n=50)
Male gender; n (%)	11 (22)
Age (years); median (range)	65.82 (29-94)
Hospital day culture obtained; median (range)	1 (0-24)
Type of UTI per chart diagnosis; n (%)	
Simple cystitis	9 (18)
Complicated cystitis	34 (68)
Pyelonephritis	7 (14)
Fever; n (%)	2 (4)
Leukocytosis; n (%)	13 (26)
Altered mental status (AMS); n (%)	14 (28)
No documented signs <sup>†</sup> or symptoms <sup>‡</sup> ; n (%)	22 (44)
No documented symptoms <sup>‡</sup> suggestive of UTI; n (%)	29 (58)
No documented symptoms* in the presence of: n (%)	
Leukocytosis	7 (14)
Fever	1 (2)
Both	1 (2)
AMS in the absence of fever and leukocytosis with no documented symptoms*; n (%)	7 (14)
AMS in the presence of fever and leukocytosis, but no documented symptoms*; n (%)	2 (4)
For symptomatic UTI, types of symptoms* documented; n = 21 (% of those symptomatic)	
Dysuria	12 (57)
Frequency	5 (24)
Urgency	1 (5)
Hematuria	4 (19)
Other (CVA tenderness, flank pain)	3 (14.3)
Number of UA reflexed to culture; n = 48 (%)	44 (91.7)
Negative UA with subsequent culture; n = 48 (%)	5 (10.4)
Culture Results; n = 44 (%)	
1 isolate	30 (68.2)
Contamination OR ≥ 2 isolates	12 (27.3)
No growth	2 (4.5)
Signs = fever or leukocytosis; symptoms = dysuria, frequency, urgency, hematuria	