the current (2019) US-FDA website document states “cefadroxil may be deduced from cazoL” regardless of clinical indication.

**Conclusion.** Cefadroxil-S for guiding uUTI therapy cannot be accurately predicted by cazoL results at ≤16 mg/L (insufficient surrogate accuracy and compromised spectrum/potency). Furthermore, direct cefadroxil AST does not exist in United States due to lack of breakpoint criteria (CLEX, USCAST) and reagent materials (MIC products or disks). CLEX or other O/C’s remain preferred, more active (table) uUTI treatment choices having quality direct or surrogate AST guidances.

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**1454. Epidemiology, Empiric Treatment, and Outcomes Among Hospitalized Patients With Complicated Urinary Tract Infections in the United States, 2013–2018**

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**Session:** 157. Urinary Tract Infections

**Background.** Complicated urinary tract infection (cUTI) is common among hospitalized patients. Though carbapenems are an effective treatment in the face of rising resistance, overuse drives carbapenem resistance (CR). We hypothesized that resistance to routinely used antimicrobials is common, and, despite the frequent use of carbapenems, associated with an increased risk of inappropriate empiric treatment (IET), which in turn worsens clinical outcomes.

**Methods.** We performed a multicenter retrospective cohort study in ~180 hospitals in the Premier database, 2013–2018. Using an ICD-9/10-based algorithm we identified all adult patients hospitalized with cUTI and a positive blood or urine culture (CR excluded). We examined with the impact of triple resistance (TR; resistance to >3 of the following drugs/classes: third-generation cephalosporin [C3R], fluoroquinolones, fosfomycin trometamol, and nitrofurantoin) on the risk of receiving IET. We derived multivariate models to compute the impact of IET on hospital outcomes.

**Results.** Among 23,331 patients with cUTI (96.2% community-onset), 3,040 (13.0%) had a TR pathogen. Compared with those with non-TR, patients with TR were more likely male (57.6% vs. 47.7%), black (17.9% vs. 13.6%), and in the South (46.3% vs. 41.5%), P < 0.001 each; had a higher median Charlson score (3 vs. 2), and were more likely to need early ICU (22.3% vs. 16.9%) and mechanical ventilation (7.0% vs. 5.0%), P < 0.001 each. Patients with TR were hospitalized at centers with higher median prevalence of both C3R (16.3% vs. 14.4%) and TR (15.1% vs. 12.2%), P < 0.001 each. IET was more frequent in TR than non-TR group (19.6% vs. 5.4%) despite greater empirical carbapenem use in TR (43.3% vs. 16.2%), P < 0.001 each. Though IET did not have an impact on adjusted hospital mortality or 30-day readmission rate, it was associated with excess adjusted resource utilization ($1,364 in costs and 0.66 day in length of stay).

**Conclusion.** Among hospitalized patients with cUTI, TR is common, and is associated with a nearly 4-fold increase in exposure to IET, which in turn contributes to excess resource utilization. Given the high prevalence of TR, clinicians should consider a lower threshold for broader empiric treatment in appropriate patients.

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**1455. Increase in Resistance to Antibiotics in Enterobacteriaceae from Ambulatory Urinary Samples in Buenos Aires City**

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**Session:** 157. Urinary Tract Infections

**Background.** During the last years, an increase in the rates of resistance among causal agents of urinary tract infection (UTI) has been reported, even in community-acquired infections. This increase in resistance is problematic since it affects most therapeutic agents used in the ambulatory setting and often implies the lack of oral options for treatment. The aim of this study was to determine whether there were changes in the prevalence of resistance among samples from patients with UTI in the ambulatory setting caused by the most common Enterobacteriaceae.

**Methods.** We analyzed the resistance profiles of the three most common Enterobacteriaceae recovered in cultures from urinary samples of ambulatory adult patients, processed in a reference Laboratory in Buenos Aires City, according to
calendar year, from January 1, 2010 till December 31, 2017. Sensitivity to antibiotics was determined using disk-diffusion methods and interpreted according to CLSI guidelines.

Results. A total of 26774 urinary samples were processed in the mentioned period and were analyzed for this study. Of these, 84% were from women, mean (SD) age was 59.7(20.4) years. Distribution according to bacterial genus and species was: E. coli: 84.6%; Klebsiella pneumoniae: 9.9%; Proteus sp.: 5.5% There were no significant differences in gender, mean age or bacterial genus/species distribution according to calendar year. When comparing 2010 to 2017 we found significant differences in the prevalence of resistance to fluoroquinolones: 26.6% vs. 33.6% respectively, P < 0.01; third G cephalosporins: 5.2% vs. 10.0%, P < 0.01; carbapenems: 0.2% vs. 0.4%, P < 0.01. Prevalence of resistance to TMS (39.0% vs. 40.2%) and nitrofurans (11.9% vs. 10.3%) remained stable. Results of analysis of resistance according to bacterial genus/species comparing results from 2010 to results from 2017 are shown on the table.

Conclusion. Resistance to antibiotics in Enterobacteriaceae recovered from urinary samples has increased significantly in the last years, especially for quinolones, third G cephalosporins (100% increase) and carbapenems (100% increase). Resistance to TMS was high but remained stable. E. coli shows very good sensitivity to nitrofurantoin. It is key to improve and amplify the measures to prevent emergence of resistance and aim to revert this increasing trend in urinary tract infections from the community.

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1457. Antimicrobial Resistance of Urinary Tract Infection Pathogens in South Korea: A Surveillance Report of the One-Year Assessment in 2017

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Background. Korean Antimicrobial Surveillance System (Kor-GLASS) was established in 2016, which is compatible with the Global Antimicrobial Resistance Surveillance System launched by WHO. Here, we report a one-year assessment of Kor-GLASS in 2017, focusing on the antimicrobial resistance of urine isolates.

Methods. Non-duplicated clinical isolates of E. coli and K. pneumoniae recovered from urine cultures were collected from 8 sentinel hospitals. Demographic information, origin (hospital origin or community origin), and admission type were investigated. Bacterial species were confirmed using a matrix-assisted laser desorption/ionization time-of-flight mass spectrometer. Antimicrobial susceptibility was tested by disk diffusion and broth microdilution methods.

Results. During the one-year period of surveillance from January 2017 to December 2017, a total of 9,130 (11.9%) isolates of target pathogens were recovered from urine specimens of 76,625 patients with suspected urinary tract infection (UTI). The rate of culture-positive was the highest in the < 1 age group (94.4%), stiffly decreased in the 1-5 <15 AG to 3.4%, and gradually increased with age up to 19.6% in the ≥85 AG. The mean occurrence of UTI per 10,000 patient-days for inpatients was 19.3 (range, 3.4–46.1) for E. coli and 4.0 (range, 1.5–7.3) for K. pneumoniae. Resistance rate for cefotaxime was higher than those for cefazidime both in E. coli (31.3% vs. 10.3%) and K. pneumoniae isolates (39.0% vs. 29.8%). Resistance rate for ciprofloxacin in E. coli isolates was 40.9%, and that in K. pneumoniae isolates was 31.9%. Only 4.9% and 10.9% of E. coli and K. pneumoniae isolates exhibited resistance phenotype to cefoxitin, respectively. Ertapenem-resistance was more frequently identified in K. pneumoniae isolates (1.6%) than in E. coli isolates (0.1%). Multidrug resistance (MDR) phenotype was identified in 61.4% of the E. coli and 44.8% of K. pneumoniae urine isolates.

Conclusion. Kor-GLASS generated well-curated surveillance data devoid of collection bias or isolate duplication. Cefoxitin was an alternative treatment to ciprofloxacin for urinary tract infections caused by Enterobacteriaceae. About one-half of urine isolates belonged to either MDR or XDR.