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Background. There are few data on risk factors, chosen therapy and healthcare utilization among US children with extended spectrum β-lactamase-positive urinary tract infection (ESBL UTI). We performed a multicenter case–control study on childhood ESBL UTI from November 2014 to February 2017; herein we present preliminary data from a single Los Angeles County hospital.

Methods. We defined UTI per 2011 AAP guidelines and ESBL per CLSI specifications. ESBL(−) UTI controls were matched by sex and age. Descriptive and matched univariate analyses on medical record data (up to 6 months after index culture) were performed.

Results. Among 893 urinary Enterobacteriaceae isolates, 28 were ESBL(+) of which 23 were included: 13 girls, 0–5 year olds; 4 girls, 6–26 year olds; and 6 boys, 0–5 year olds. Prior hospitalization (55 vs. 78% for cases vs. controls, respectively), prior receipt of systemic antibiotics (53 vs. 38%), index hospitalization (39 vs. 20%), mean length of stay (3.8 vs. 3.6 days), and medical comorbidity (44 vs. 56%) did not differ significantly between groups. As well, several biosocial risk factors were similar in both groups, including: race, ethnicity, non-English-speaker, access to public benefits, international travel, non-US-birth, domestic violence/child abuse/neglect, and housing insecurity. Of cases and controls receiving any therapy, 16% and 96%, respectively, got empiric antibiotics to which the isolate was susceptible (P = 0.001). After culture results were available, only 39% of cases and 96% of controls received effective agents (P = 0.00002). Forty-two percent of cases had clinical improvement (within a mean of 3 days); vs. 43% of controls. Total treatment duration did not differ, and no deaths were recorded. In the 6 months after index UTI, groups did not differ in number of clinical encounters, proportion with documented follow-up, repeat urine tests, receipt of additional therapy, or prophylactic antibiotics. The proportions undergoing any Clostridium difficile imaging were similar (42 vs. 47%), but this imaging included modalities with ionizing radiation in 4 cases vs. none of the controls (P < 0.05).

Conclusion. Our data suggest that clinical improvement occurs with initial (and potentially ineffective) empiric regimens, regardless of ESBL phenotype. The finding of more ionizing radiation exposure warrants additional study.

Disclosures. All authors: No reported disclosures.

2418. Management of Carbapenem-Resistant Enterobacteriaceae Infections in a Long-term Acute Care Hospital
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Background. Long-term acute care hospital (LTACH) systematically selects a unique patient population with multiple risk factors for Carbapenem-resistant Enterobacteriaceae (CRE) colonization and infection leading to an increase CRE prevalence at these facilities. This selection bias creates a fertile ground to harness scientific data and test hypotheses. We performed a retrospective analysis of patients with CRE infections diagnosed and treated in one LTACH.

Methods. Baseline data, antimicrobial treatment, and outcomes were collected in patients with bacteremia, healthcare-associated pneumonia (HCAP), and complicated urinary tract infection (cUTI)/acute pyelonephritis (AP) due to CRE diagnosed in patients with bacteremia, healthcare-associated pneumonia (HCAP), and complications of infections. Among 893 urinary Enterobacteriaceae isolates, 28 were ESBL(+) of which 23 were included: 13 girls, 0–5 year olds; 4 girls, 6–26 year olds; and 6 boys, 0–5 year olds. Prior hospitalization (55 vs. 78% for cases vs. controls, respectively), prior receipt of systemic antibiotics (53 vs. 38%), index hospitalization (39 vs. 20%), mean length of stay (3.8 vs. 3.6 days), and medical comorbidity (44 vs. 56%) did not differ significantly between groups. As well, several biosocial risk factors were similar in both groups, including: race, ethnicity, non-English-speaker, access to public benefits, international travel, non-US-birth, domestic violence/child abuse/neglect, and housing insecurity. Of cases and controls receiving any therapy, 16% and 96%, respectively, got empiric antibiotics to which the isolate was susceptible (P = 0.001). After culture results were available, only 39% of cases and 96% of controls received effective agents (P = 0.00002). Forty-two percent of cases had clinical improvement (within a mean of 3 days); vs. 43% of controls. Total treatment duration did not differ, and no deaths were recorded. In the 6 months after index UTI, groups did not differ in number of clinical encounters, proportion with documented follow-up, repeat urine tests, receipt of additional therapy, or prophylactic antibiotics. The proportions undergoing any Clostridium difficile imaging were similar (42 vs. 47%), but this imaging included modalities with ionizing radiation in 4 cases vs. none of the controls (P < 0.05).

Conclusion. Our data suggest that clinical improvement occurs with initial (and potentially ineffective) empiric regimens, regardless of ESBL phenotype. The finding of more ionizing radiation exposure warrants additional study.

Disclosures. All authors: No reported disclosures.

2420. A Real-World Perspective on the Efficacy of Fosfomycin for Treatment of Multidrug-Resistant Pathogens Causing Urinary Tract Infections
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Background. Urinary tract infections (UTI) are the most common infection associated with multidrug-resistant (MDR) pathogens. With limited treatment options, there has been an increasing interest in the efficacy of fosfomycin (FOS); however, real-world clinical data are limited. Our objective was to assess the outcomes of hospitalized patients with MDR UTIs treated with FOS.

Methods. Retrospective review of patients with carbapenem-resistant (CRE) or extended spectrum β-lactamase producing (ESBL) Enterobacteriaceae, or vancomycin-resistant Enterococcus (VRE) UTIs who received ≥1 dose of FOS. UTI was defined as a urinary culture with ≥100 CFU/mL among patients with dysuria, increased urinary frequency, suprapubic or flank pain or tenderness, fevers, or altered mental status without an alternative etiology. We defined cure as resolution of symptoms within 7 days without reoccurrence within 30 days. Microbiological failure was defined as a positive urine culture within 14 days.

Results. 49 patients with MDR UTIs (17 ESBL, 17 VRE, 15 CRE) were included. Median age was 69 (range: 20–95), 18% were male, 14% were immunosuppressed and the median Charlson score was 4 (0–12). 33% had indwelling catheters and 10% of patients had neuromuscular bladder. Increased frequency (29%) and fever (27%) were the most common symptoms. 51% of cases were healthcare associated and 64% met the CDC/NHSN definition of UTI. UTIs were complicated by pyelonephritis in 2 patients, but none had concomitant bacteremia. FOS was administered as empiric or definitive treatment in 39% and 61%, respectively. Only 12% of patients received ≥1 dose. Cure occurred in 88% of patients, and did not vary by infecting pathogen (Figure 1, Table 2), or the number of FOS doses received. Patients with relapsing symptoms were infected by ESBL (n = 3), CRE (n = 1), and VRE (n = 3); all but one received 1 dose of FOS. Microbiologic failures occurred in 18% due to ESBL (n = 1), VRE (n = 1), and VRE (n = 4). 4% of patients died in hospital, but only 1 death was related to UTI. Overall, FOS was well-tolerated with vomiting recorded in one patient.

Conclusion. Across a range of MDR pathogens causing UTIs, FOS was well-tolerated and effective for hospitalized patients. FOS represents an attractive oral option to preserve alternative agents for systemic infections. Future studies are needed to evaluate the benefit of repeated dosing.