Pyogenic liver abscess (PLA) is a significant cause of morbidity and mortality. Epidemiological data regarding risk factors and outcome determinants are often ascertained from referral population bases. We utilized a population-based study design to better understand PLA.

**Methods.** Calgary Health Zone (CHZ) residents ≥18 years of age with ≥13 million (population) who were hospitalized with PLA in 2017 were included. Charts were manually reviewed to determine demographics and clinical outcomes. Univariate and multivariate logistic regression were used to assess for factors associated with 30-day mortality using STATA 15.1 (College St., TX).

**Results.** Forty-four patients with PLA were identified (39% female, median age 61 [IQR 56–68] years) corresponding to an incidence rate of 3.7 cases per 100,000 population. Prevalent co-morbidities with PLA included; hemodialysis dependence (4.5%), cancer (25%), diabetes (23%), and cirrhosis (6.8%), each of which was significantly more common (P < 0.05) than in the general population; 85.3X, 11.2X, 3.6X, and 29.9X, respectively. Rates of other comorbidities including ischemic heart disease, COPD, and rheumatoid arthritis did not differ from general populations (P > 0.05). The etiology of PLA was established in 72% of cases, of which biliary was most common (11), Klebsiella pneumoniae (11), Klebsiella oxytoca (6), Escherichia coli (4), and obligate anaerobes (3). Blood cultures were positive in 25/44 (56%) cases. Thirty-day mortality from admission was 11% and had multiple risk factors (Table 1).

**Conclusion.** PLA in the CHZ is common and associated with high mortality. Understanding factors influencing PLA occurrence and outcome can assist in correctly identifying and optimizing treatment patients.

**Table 1: Risk factors associated with 30-day mortality in patients with PLA.**

| Factors associated with 30-day mortality | Univariate |
|----------------------------------------|------------|
| Bacteremia                              | 20% vs 0%, NA, p=0.05 |
| Polymicrobial bacteremia                | 96% vs 0%, NA, p<0.001 |
| Bilary source                           | 19% vs 0%, NA, p=0.05 |
| Altered immunity                       | 40% vs 3%, 13, 36, 40% |

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

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1505. Shorter-Course Antibiotic Treatment for Pediatric Ventilator-Associated Tracheitis Is Safe and Effective

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**Background.** Ventilator-associated tracheitis (VAT) is a common infection in children cared for in pediatric intensive care units (PICU). Short-course antibiotic treatment (5 days) has been shown to be effective. In October 2016, we implemented a PICU VAT guideline for short-course therapy. We assessed the impact of this intervention.

**Methods.** We conducted a retrospective cohort study of PICU patients diagnosed with VAT from October 2016 to June 2018. The antimicrobial stewardship program (ASP) identified potential patients through daily chart review. Only those patients with a clinician diagnosis and who were receiving antibiotics for VAT, either enterally or parenterally, were included. Frequencies and proportions were calculated. Chi-square or Fisher exact tests were used to compare proportions.

**Results.** ASP identified 251 potential patients, 105 (42%) of whom met inclusion criteria. The median age was 7 years (range: 0–21). Twenty-eight (27%) were tracheostomy dependent. The most commonly prescribed antibiotics were cefepime (43%), ceftriaxone (17%), and vancomycin (14%). Median antibiotic duration was 13 days (range: 1–29); 57 (52%) received > 5 days and 48 (44%) received 5 days. Only 3 (6%) patients who received 5 days of antibiotics required retreatment within 10 days of their initial course vs. 11 (19%) who received > 5 days (P = 0.049). A diagnosis of ventilator-associated pneumonia (VAP) within 10 days of completing VAT treatment was made in 2 (4%) patients who received 5 days vs. 3 (5%) of patients who received > 5 days (P = 1.0). C. difficile infection within 90 days occurred in 2 (4%) patients who received > 5 days vs. 1 (2%) who received 5 days (P = 1.0).

**Conclusion.** Short-course antibiotic therapy for VAT was not associated with retreatment for VAT or subsequent diagnosis of VAP. Development of C. difficile was similar between groups. Adherence to the guideline was approximately 50%, perhaps due to physician perception of disease severity. Additional work is needed to refine the diagnosis of VAT and assess the interaction between illness severity and treatment duration.

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

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1506. Outcomes of Standardized Neonatal Cephalexin Dosing

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**Background.** The optimal dosing of cephalexin in infants ≤90 days old is not well known. Our Antimicrobial Stewardship Program (ASP) standardized cephalexin dosing for infants ≤90 days old using available literature and released an antimicrobial dosing guideline in September 2016. Recommended antimicrobial dosing for infants ≤30 days old followed in November 2017. We reviewed the indications, cephalaxin dosing, and clinical outcomes of patients before and after the release of our ASP’s cephalaxin dosing guidelines.

**Methods.** Webi Universe was queried for cephalexin orders for inpatients ≤30 days old using available literature and released an antimicrobial dosing guideline in September 2016. Recommended antimicrobial dosing for infants ≤30 days old was followed in November 2017. We reviewed the indications, cephalexin dosing, and clinical outcomes of patients before and after the release of our ASP’s cephalaxin dosing guidelines.

**Results.** 41 patients were identified: 25 in the pre-intervention period and 16 in the post-intervention period. The median age of patients in the pre-intervention period was 16 days compared with 31 days in the post-intervention period (P = 0.02). No patients had acute kidney injury requiring cephalexin renal dosing. Skin and soft-tissue infections (18) and urinary tract infections (10) were the most common infections in both periods. 24% of patients received the recommended cephalexin dose in the pre-intervention period compared with 63% in the post-intervention period (P = 0.02). Logistic regression controlling for pathogens and area of care showed that patient age predicted the use of recommended cephalexin dosing (OR 1.1, 95% CI: 1.01–1.21). There were no deaths or readmissions.

**Conclusion.** Our ASP’s interventions improved adherence to standardized cephalexin dosing in infants ≤90 days old without any adverse clinical outcomes. Patients ≥90 days old were more likely to receive recommended cephalexin dosing. Opportunities remain to best define the optimal dose of cephalexin in infants ≥90 days old.

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Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. Daptomycin (DAP) is lipopeptide that frequently is used to treat infections caused by Staphylococcus aureus in adult patients. There are limited data used daptomycin in pediatric patients for the treatment of osteomyelitis caused by S. aureus. This study's objective is to describe pharmacodynamic (PD) target attainment of daptomycin in pediatric patients with osteomyelitis.

Methods. Daptomycin was empirically used to treat 56 patients with osteomyelitis classified into group receiving empirical antimicrobials to which organisms were susceptible and non-susceptible. Medical records were reviewed to assess clinical outcomes and to decrease the empiric use of antistaphylococcal therapy.

Results. Among total 161, E. coli and K. pneumoniae bacteremia, 46 (28.6%) cases were treated with empiric carbapenem, and the remaining 21 cases with non-carbapenem agents. The all-cause 30-day fatality in the carbapenem group was 32% (8/25) and 5% (1/21) in the non-carbapenem group (P = 0.025). Microbiological cure rate at 3 days after the first cultures positive day was 75.3% in the carbapenem group and 89.6% in the non-carbapenem group (P = 0.046). However, adjusting initial presentation with septic shock, the choice of initial empiric antibiotic was not a risk factor for the 30-day fatality and microbiological cure rate at 3 days (HR 4.82, 95% CI 0.592–39.231; HR 0.648, 95% CI 0.333–1.259, respectively).

Conclusion. For the medically fragile pediatric patients with bacteremia caused by ESBL producing E. coli and K. pneumoniae, the impact of empiric antibiotics on clinical and microbiological outcomes was not significant if early transition to definitive carbapenem regimen is possible when susceptibility is proven. A large-scale multicenter study will be needed to select the most appropriate empiric antibiotics and to minimize the spread of antibiotics resistance.

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1508. Carbapenem vs. Non-carbapenem as Empiric Regimens for Bacteremia Caused by ESBL Producing Escherichia coli and Klebsiella pneumoniae in Children: Preliminary Study
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Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. The clinical efficacy of non-carbapenem for the treatment of extended-spectrum β-lactamase (ESBL) bacteremia in children with underlying comorbidities is controversial. We aimed to compare clinical and microbiological outcomes was not significant if early transition to definitive empiric antibiotics and to decrease the empiric use of antistaphylococcal therapy.

Methods. Pediatric patients aged <19 years who hospitalized between January 2014 to Jun. 2018 at Asan medical center with monomicrobial ESBL producing E. coli or K. pneumoniae bacteremia, 46 (28.6%) cases were treated with empiric carbapenem, and the remaining 21 cases with non-carbapenem agents. The all-cause 30-day fatality in the carbapenem group was 32% (8/25) and 5% (1/21) in the non-carbapenem group (P = 0.025). Microbiological cure rate at 3 days after the first cultures positive day was 75.3% in the carbapenem group and 89.6% in the non-carbapenem group (P = 0.046). However, adjusting initial presentation with septic shock, the choice of initial empiric antibiotic was not a risk factor for the 30-day fatality and microbiological cure rate at 3 days (HR 4.82, 95% CI 0.592–39.231; HR 0.648, 95% CI 0.333–1.259, respectively).

Conclusion. For the medically fragile pediatric patients with bacteremia caused by ESBL producing E. coli and K. pneumoniae, the impact of empiric antibiotics on clinical and microbiological outcomes was not significant if early transition to definitive empiric antibiotics and to decrease the empiric use of antistaphylococcal therapy.

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1510. Improving the Management of Pediatric Complicated Pneumonia
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Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. Our ASP's QI intervention decreased surgical drainage of complicated parapneumonic effusions and decreased the use of empiric antistaphylococcal therapy. Our second intervention (period 2) consisted of a care process model which codified the standardized management made by the first intervention, followed by several didactic sessions.

Results. 29 patients were identified in the pre-intervention period, 11 in post-intervention period 1, and 27 in post-intervention period 2. Streptococcal species were the most common pathogens recovered in all periods. Following our interventions the number of video-assisted thoracic procedures to drain complicated parapneumonic effusions decreased three-fold in favor of chest tubes instilled with fibrinolitics and to decreased empiric antistaphylococcal therapy. Our second intervention (period 2) consisted of a care process model which codified the standardized management made by the first intervention, followed by several didactic sessions.

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1511. Effect of Discharge Antibiotic Route on Clinical Outcomes in Children with Methicillin-Resistant Staphylococcus aureus (MRSA) Osteomyelitis with Bacteremia
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Session: 159. Pediatric Bacterial Diseases: Diagnosis and Management
Friday, October 4, 2019: 12:15 PM

Background. Resistance Onset Febrile Urinary Tract Infection in the Era of Increasing Antimicrobial Resistance.

Results. Among total 161, E. coli and K. pneumoniae bacteremia, 46 (28.6%) cases were treated with empiric carbapenem, and the remaining 21 cases with non-carbapenem agents. The all-cause 30-day fatality in the carbapenem group was 32% (8/25) and 5% (1/21) in the non-carbapenem group (P = 0.025). Microbiological cure rate at 3 days after the first cultures positive day was 75.3% in the carbapenem group and 89.6% in the non-carbapenem group (P = 0.046). However, adjusting initial presentation with septic shock, the choice of initial empiric antibiotic was not a risk factor for the 30-day fatality and microbiological cure rate at 3 days (HR 4.82, 95% CI 0.592–39.231; HR 0.648, 95% CI 0.333–1.259, respectively).

Conclusion. For the medically fragile pediatric patients with bacteremia caused by ESBL producing E. coli and K. pneumoniae, the impact of empiric antibiotics on clinical and microbiological outcomes was not significant if early transition to definitive empiric antibiotics and to decrease the empiric use of antistaphylococcal therapy.

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1509. Outcomes of Empirical Antimicrobial Therapy for Pediatric Community-Onset Febrile Urinary Tract Infection in the Era of Increasing Antimicrobial Resistance.
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