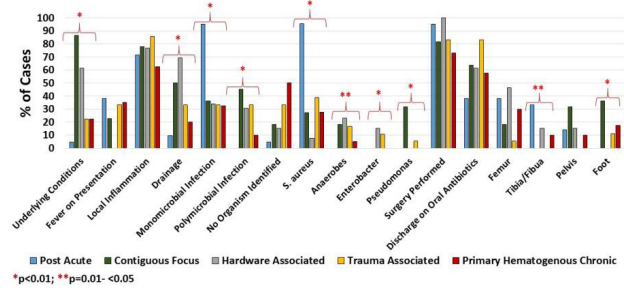


Figure 3. Clinical Features of Pediatric Chronic Osteomyelitis
Figure 3. Select Features of Pediatric Chronic Osteomyelitis



Conclusion. Children with chronic osteomyelitis are diverse both in terms of pathogenesis and microbiology. Pathogenesis and clinical presentation can provide clues to microbiologic etiology. Prolonged intravenous therapy does not appear to improve functional outcomes in chronic osteomyelitis

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1370. Three of Hearts: A Case Series and Literature Review of Pediatric Purulent Pericarditis

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Session: P-61. Pediatric Bacterial Studies (natural history and therapeutic)

Background. Purulent pericarditis is rare in the pediatric population. Three children with purulent pericarditis complicated by tamponade were seen at a children's hospital from 2018-2019. A review of the literature was conducted to investigate the clinical significance and features of purulent pericarditis.

Methods. Cases of purulent pericarditis in children (age < 18 years) published in English from 2000 to 2020 were reviewed. Patients were included if there was presence of purulent pericardial fluid or if a bacterial pathogen was isolated from pericardial fluid.

Results. Three children with purulent pericarditis and tamponade with associated pneumonia were cared for at our institution. These infections were caused by methicillin-susceptible *Staphylococcus aureus*, *Haemophilus influenzae*, and *Streptococcus pyogenes*. Review of the literature identified 93 children with purulent pericarditis. The median age of the cohort is 4 years old. In 68.8% of children the etiology was identified from culture of pericardial fluid. The most common organism detected was *S. aureus* (38.7%) and a concurrent infection was seen in 49.4% - pneumonia (36.5%), osteomyelitis (17.2%), soft tissue (7.5%), and meningitis (2.1%). In North America specifically, methicillin-resistant *S. aureus* was most common 35% (7/20) and associated infection was seen in 80% (16/20). Clinical course was complicated by pericardial tamponade in 68.5% (37/54) of patients, 48.6% (18/37) of those children with tamponade also had pneumonia. Pericardiocentesis is the most frequent initial intervention, performed in 77.4% of cases. The mortality rate was 4.3%.

Conclusion. In pediatric purulent pericarditis, Gram-positive organisms account for 81.2% of all children with positive pericardial fluid culture, and 75% of infections in North America. A bacterial pathogen can be isolated from the pericardial fluid in a majority of patients with purulent pericarditis. There is a high rate of concurrent infection, most notably pneumonia, and there is a strikingly high percentage of tamponade in those cases.

Disclosures. All Authors: No reported disclosures

1371. Trends in Antibiotic Resistance Among Uropathogens in the Pediatric Population: A Single Center Experience in the US

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Session: P-61. Pediatric Bacterial Studies (natural history and therapeutic)

Background. Urinary tract infections (UTIs) are common infections in children. Overuse of antibiotics has led to an increasing prevalence of antibiotic resistance among uropathogens in adults; however, data on pediatric trends have not been previously reported. Our objective was to characterize antibiotic resistance trends in uropathogens among children at a tertiary care hospital in a diverse urban US city.

Methods. Positive urine culture data (>20,000 CFU/ml) from January 1st, 2010 through December 31st, 2019 were obtained from the electronic medical records (inpatient and outpatient). Yearly antibiotic agent-specific resistance rates were calculated based on culture, patient, and organism level data.

Results. A total of 7,512 patients had ≥1 positive urine culture, with 13,327 positive individual cultures. The average age at sample collection was 6 yrs (IQR 2-11). Overall, 66% of cultures showed resistance to at least 1 antibiotic. Ampicillin resistance

(50.1% IQR: 48.2%-52.4%) was the most common and remained stable over the study period. However, resistance against amoxicillin-sulbactam, third and fourth generation cephalosporins, and fluoroquinolones has increased significantly over this period (Figure 1). There was also a corresponding increase in the prevalence of extended spectrum beta-lactamase (ESBL) Enterobacteriaceae (Figure 2). Among infants < 1 year, a similar trend in increasing resistance against beta-lactams was noted (ampicillin-sulbactam 0% to 38%, ceftriaxone 0% to 9% and cefepime 0% to 4%, Figure 3).

Figure 1

Figure 1. Antibiotic resistance trends of positive urine culture pathogens 2010-2019

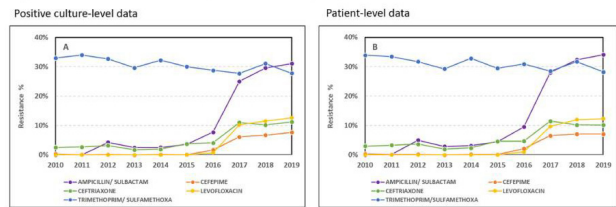


Figure 2

Figure 2. Percentage of positive urine cultures with ESBL Enterobacteriaceae

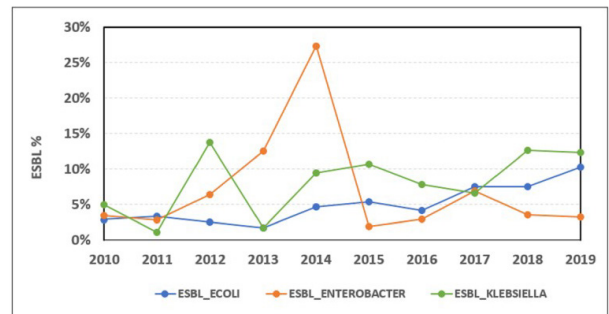
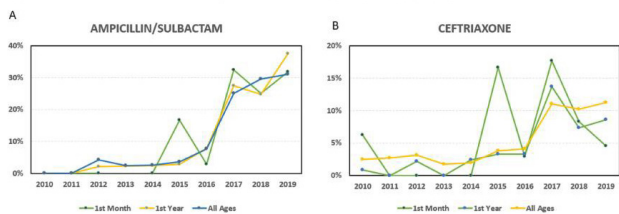


Figure 3

Figure 3. Antibiotic resistance trends of positive urine culture pathogens by age group



Conclusion. There are rising rates of antibiotic resistance to broad spectrum antibiotics, including beta-lactams and quinolones, in a pediatric population over the last 10 years, with a notable increase in resistance starting in 2015-2016. While we were not able to distinguish patients with community acquired UTI, the increase in resistance among infants < 1 year suggests a community reservoir of multi-drug resistant gram-negative bacteria. Colonization by resistant uropathogens has implications for empiric antibiotic choice, limited oral therapy options, and clinical outcomes which necessitate further study.

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1372. Urinary Tract Infections Caused by Gram-Positive Bacteria in Patients Younger than 19 Years: Prediction Analysis in a 13-year Hospital-Based Cohort
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Session: P-61. Pediatric Bacterial Studies (natural history and therapeutic)

Background. Urinary tract infection (UTI) is one of the common pediatric bacterial infections. Gram positive (GP) pathogens, in contrast to gram negative (GN) bacilli such as *E. coli*, are less accounted for pediatric UTI. The aim of this study was to identify predictors to enable clinicians to detect GP uropathogens from mostly causative GN bacteria in children with UTI.

Methods. This retrospective cohort study identified 26,066 paired urinalysis and urine culture obtained from the pediatric patients during 2003-2016. Of patients with UTI meeting our criteria, we included children with first-time UTI and classified them into GP-UTI and GN-UTI (Figure 1). Demographic, clinical and laboratory data were