Conclusion. There was no observed difference in RTI, hospitalization, oxygen supplementation, or ICU admission for RTI between participants receiving or not receiving antibiotic prophylaxis in this cohort. Because of the relatively low number and severity of respiratory infections, and the high proportion that are viral in etiology, it would likely take a very large sample size to determine the impact of antibiotic prophylaxis on respiratory infections during induction therapy for pediatric ALL.

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1156. Pneumococcal Colonization in Children with Persistent Asthma and without Asthma
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Session: P-64. Pediatric Bacterial Studies (natural history and therapeutic)

Background. The most common underlying medical condition among children ≥ 5 years of age with invasive pneumococcal disease is asthma. How asthma affects pneumococcal colonization is not fully understood. Our objective was to compare pneumococcal colonization rates in children with persistent asthma vs. without asthma.

Methods. This is a single center retrospective cohort study. We used saliva mid-turbinate samples testing negative for influenza per routine care from 5-18 year-olds with upper respiratory symptoms or febrile illness during 2017-18 and 2018-19 northern hemisphere respiratory seasons (November to April). Analyzed groups were those with persistent asthma or those without asthma. Samples were evaluated for pneumococcal colonization by real-time PCR using CDC id4x4 primers (positive Ct ≤ 35). Positive samples were further tested with multiplex serotype-specific PCR assays to determine pneumococcal serotype.

Results. Of 363 children (120 with persistent asthma and 243 without asthma), 87.6% were 5-10 years old, and 49.9% were male. Fifty percent of samples were from January-February. Pneumococcal colonization rate was lower in children with persistent asthma (10%) vs. without asthma (18.9%) (p = 0.03). The odds of colonization were lower in children with persistent asthma (OR 0.4 [95% CI 0.2-0.9]) after adjusting for age, sex, clinic site, smoking exposure, and number of pneumococcal vaccines doses. Colonized patients without asthma were younger than the other groups (Table 1). Pneumococcal serotype/serogroup was assigned in 45 (77.6%) positive samples; 16 (36%) samples corresponded to PCV13 serotypes and 29 (64%) samples to non-PCV13 serotypes. The most common serotypes were: 19F (n = 37), 3 (n = 26), 6C/6D (n = 5), 23B (n = 4), 33F/33A/37 (n = 3), 35B (n = 3), 22F/22A (n = 3), 23A (n = 3).

Table 1

| Age (years), n (%) | Pneumococcal Colonization Rate | p-value |
|-------------------|-------------------------------|---------|
| 5-10 years, n = 180 | 51.3% (47/92) | 0.031 |
| 11-12 years, n = 90 | 13.3% (12/90) | 0.04 |
| 13-18 years, n = 93 | 3.3% (3/93) | 0.001 |

Conclusion. Patients with persistent asthma had lower rates of pneumococcal colonization than patients without asthma during respiratory season.

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1157. Determining the Clinical Utility of 16S rRNA in the Management of Pediatric Infections
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Session: P-64. Pediatric Bacterial Studies (natural history and therapeutic)

Background. Conventional culture remains the gold standard to facilitate targeted antimicrobial regimen in the treatment of bacterial infections in select scenarios. However, the specific impact of 16S rRNA on clinical decision making, especially in pediatric infections, is not well-defined. This study aims to elucidate the utility of 16S rRNA on clinical management of pediatric infections.

Methods. A retrospective analysis was done on different clinical specimens which had 16S rRNA performed from August 2016 – March 2020 in our institution. Detailed chart review was performed to determine how the 16S rRNA result impacted clinical decision making. Clinical utility was defined as change in patient's overall antimicrobial regimen, pathogen confirmation, and treatment duration.

Results. Seventy-four samples from 71 pediatric patients were included in the analysis. 32 (43%) were fluid specimens and 42 (57%) were tissue specimens. Significant clinical utility was identified in 30 (40.5%) of 74 clinical samples (p = 0.0001). Of all specimens, pulmonary samples yielded the most clinical utility (n=9, 30%) followed equally by joint fluid (n=6, 20%) and bone (n=6, 20%). There was no significant difference in clinical utility between fluid and tissue specimens (p = 0.346). In 64 patients whose antimicrobial spectrum coverage was analyzed, patients with broad spectrum coverage was decreased from 48 to 21 and narrow spectrum coverage increased from 16 to 45 using 16S rRNA result, though not significant (p = 0.4111). Of all patients included in the analysis, the median number of antibiotics used before 16S rRNA result, 2, was significantly decreased to 1 (p = 0.0001).

Conclusion. 16S rRNA has a significant impact in terms of decreasing number of antibiotics used in treatment of pediatric infections. Pulmonary specimens have the highest clinical utility among all samples. Additional cost benefit analysis needs to be completed to further determine clinical benefit.

Disclosures. All Authors: No reported disclosures

Each patient is represented by a single line. Duration of symptoms prior to hospitalization, as well as duration of hospitalization (day 0 representing admission), intensive care, antibiotic administration, and timing of procedural interventions are noted. Duration of antibiotics after discharge for patient 3 was unable to be verified, as indicated by a question mark. Hospitalization, general pediatric hospital care, PICU, pediatric intensive care unit, IR, interventional radiology.

Conclusion. We present the largest pediatric case series of GAS to date. Diagnostic hallmarks included gastrointestinal symptoms, fever, systemic inflammation, and peritoneal enhancement without an abdominal source. Peri-appendiceal inflammation prompted appendectomy in 7 patients; only one had pathologic findings of acute appendicitis. Four patients developed streptococcal toxic shock syndrome and 7 required intensive care. Non-white race (n=4) and lack of appendectomy (n=5) were associated with more severe outcomes. Median antibiotic duration was 27 days. Median hospitalization was 8 days. All patients survived.

Figure 1. Schematic representation of GAS peritonitis patient clinical course.

Disclosures. All Authors: No reported disclosures

Each patient is represented by a single line. Duration of symptoms prior to hospitalization, as well as duration of hospitalization (day 0 representing admission), intensive care, antibiotic administration, and timing of procedural interventions are noted. Duration of antibiotics after discharge for patient 3 was unable to be verified, as indicated by a question mark. Hospitalization, general pediatric hospital care, PICU, pediatric intensive care unit, IR, interventional radiology.

Conclusion. We present the largest pediatric case series of GAS to date. Diagnostic hallmarks included gastrointestinal symptoms, fever, systemic inflammation, and peritoneal enhancement without an abdominal source. Peri-appendiceal inflammation was common, although acute appendicitis was rare, and appendectomy was associated with a less severe course. GAS should be considered in patients with acute abdominal processes given increasing incidence of iGAS infections.