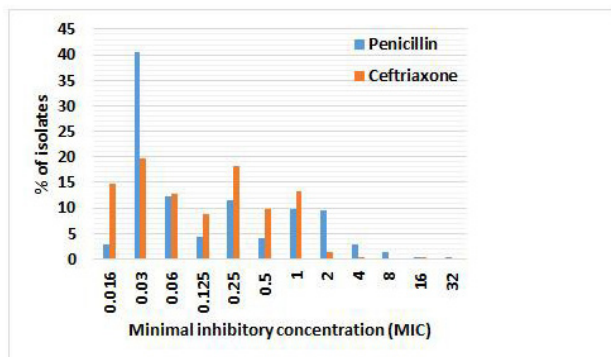


Figure. Antimicrobial susceptibility to penicillin and ceftriaxone



Conclusion. Non-PCV13 Sts caused most pneumococcal OM. St35B was the most common St. St 19A decreased as a cause of otitis. In this study the VE of ≥ 3 PCV13 doses was 86% for pneumococcal OM.

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1374. Carbapenem-Resistant Enterobacteriales Infection in Children: Clinical and Molecular Data from a Prospective Multicenter Cohort Study

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Antibiotic Resistance Leadership Group

Session: P-62. Pediatric Healthcare-associated Infection Epidemiology and Prevention

Background. Carbapenem Resistant Enterobacteriales (CRE) are an urgent public health threat. We describe the clinical and molecular epidemiology of CRE infection in a multicenter pediatric cohort.

Methods. Patients under 18 years of age with CRE positive cultures between April 30 2016 and August 31 2017 were identified from among 49 hospitals participating in the Consortium on Resistance Against Carbapenems in Klebsiella and Other Enterobacteriaceae. Isolates representing colonization or infection were included. Bacterial identification and antimicrobial susceptibility testing were performed in each contributing clinical microbiology laboratory. Carbapenem resistance was defined per CDC criteria as those isolates displaying imipenem, doripenem, or meropenem MIC ≥ 4 $\mu\text{g/mL}$ or ertapenem MIC ≥ 2 $\mu\text{g/mL}$. Clinical and epidemiological data were obtained from the electronic health record. Carbapenemase genes were detected using PCR.

Results. 51 pediatric patients with CRE were identified at 17 hospitals. All regions of the United States were represented, with highest prevalence in the South (46%), followed by the Northeast (24%), Midwest (20%) and West (10%). The mean age at time of positive culture was 4 years. 66% of children were under age 2. 53% were male. 40% were white, 38% black, and 18% Hispanic. Mean time from admission to culture was 25 days. 72% of children were in an ICU at the time of culture, including 18% in the neonatal ICU. 42% required mechanical ventilation prior to culture. History of malignancy was present in 14% of children. The most common source was urine (31%), followed by respiratory (25%), and blood (18%). The most common species were *Enterobacter cloacae* (29%), *Klebsiella pneumoniae* (24%) and *E. coli* (20%). Carbapenemase genes were detected in 8 out of 35 (23%) isolates tested. 90-day mortality was 18%. Mortality was highest for *K. pneumoniae* (42%). The majority of subjects (88%) did not receive effective antibiotic therapy on the day of culture collection.

Table 1

Summary of pediatric cohort by age group

		Age subgroups				P-Value*
		0-2 Months (N=14)	3 Months - 23 months (N=20)	2 Years+ (N=17)	Total (N=51)	
Gender	Female	6 (43%)	9 (45%)	9 (53%)	24 (47%)	0.8314
	Male	8 (57%)	11 (55%)	8 (47%)	27 (53%)	
Admitted at Birth	No	5 (36%)	19 (95%)	17 (100%)	41 (80%)	0.2391
	Yes	9 (64%)	1 (5%)	0 (0%)	10 (20%)	
White	No	11 (79%)	10 (50%)	10 (59%)	31 (61%)	0.2391
	Yes	3 (21%)	10 (50%)	7 (41%)	20 (39%)	
Black	No	4 (29%)	15 (75%)	12 (71%)	31 (61%)	0.0144
	Yes	10 (71%)	5 (25%)	5 (29%)	20 (39%)	
Asian	No	14 (100%)	20 (100%)	16 (94%)	50 (98%)	0.3606
	Yes	0 (0%)	0 (0%)	1 (6%)	1 (2%)	
American Indian	No	14 (100%)	20 (100%)	17 (100%)	51 (100%)	0.1992
	Yes	0 (0%)	2 (10%)	0 (0%)	2 (4%)	
Other race	No	14 (100%)	18 (90%)	17 (100%)	49 (96%)	0.1992
	Yes	0 (0%)	2 (10%)	0 (0%)	2 (4%)	
Race unknown	No	13 (93%)	17 (85%)	13 (76%)	43 (84%)	0.456
	Yes	1 (7%)	3 (15%)	4 (24%)	8 (16%)	
Ethnicity	Hispanic or Latino	0 (0%)	4 (20%)	5 (29%)	9 (18%)	0.4679
	Not Hispanic or Latino	11 (79%)	12 (60%)	10 (59%)	33 (65%)	
	Not Reported	2 (14%)	3 (15%)	2 (12%)	7 (14%)	
	Unknown	1 (7%)	1 (5%)	0 (0%)	2 (4%)	

*Chi-Square Test

Table 2

CRACKLE Pediatric Cohort Comorbidities by Age

		Age subgroups				P-Value
		0-2 Months (N=14)	3 Months - 23 months (N=20)	2 Years+ (N=17)	Total (N=51)	
Charlson score	Mean (s.d.)	1.86 (1.99)	0.60 (0.88)	0.88 (1.05)	1.04 (1.40)	0.0942*
	Min, Max	0, 7	0, 3	0, 3	0, 7	
	Median (Q1, Q3)	2 (0, 3)	0 (0, 1)	0 (0, 2)	0 (0, 2)	
	10%, 90%	0, 4	0, 2	0, 2	0, 3	
Pitt score	Mean (s.d.)	3.07 (2.20)	3.90 (2.90)	2.59 (2.45)	3.24 (2.59)	0.3887*
	Min, Max	0, 6	0, 10	0, 7	0, 10	
	Median (Q1, Q3)	2.50 (2.00, 6.00)	4 (2, 6)	2 (0, 4)	3 (1, 6)	
	10%, 90%	0, 6	0, 8	0, 6	0, 6	
Solid organ transplant	No	12 (86%)	18 (95%)	15 (94%)	45 (92%)	0.6686**
	Yes	2 (14%)	1 (5%)	1 (6%)	4 (8%)	
	Missing	0	1	1	2	
Stem cell transplant	No	12 (92%)	18 (100%)	12 (86%)	42 (93%)	0.2636**
	Yes	1 (8%)	0 (0%)	2 (14%)	3 (7%)	
	Missing	1	2	3	6	
Any malignancies	No	12 (86%)	19 (95%)	13 (76%)	44 (86%)	0.2988**
	Yes	2 (14%)	1 (5%)	4 (24%)	7 (14%)	

*Kruskal-Wallis Test

**Fisher's Exact Test

Conclusion. CRE infection or colonization in children in the U.S. was geographically widespread, likely hospital-acquired, and associated with high mortality. A significant portion of patients were infants. Ineffective antibiotic therapy was common at illness onset.

Disclosures. W. Charles Huskins, MD, MSc, ADMA Biologics (Consultant) Pfizer, Inc (Consultant)

1375. Characterization of Recurrent Central Line-associated Bloodstream Infections at Texas Children's Hospital

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