958. *Streptococcus pneumoniae* Serotype 3 Invasive Infections in Children

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Background. Invasive pneumococcal infections (IPI) due to *Streptococcus pneumoniae* serotype (ST) 3 have not declined as dramatically in children as other vaccine STs since the introduction in 2010 of the 13-valent pneumococcal conjugate vaccine, PCV13. While persistence of ST 3 isolates is likely due to capsule characteristics, genotypes with greater fitness may also emerge. We analyzed molecular characteristics of *S. pneumoniae* ST 3 isolates that were obtained from children with IPI.

Methods. IPI cases at 8 children's hospitals in the United States were prospectively identified from 2008-2013. ST 3 isolates were selected from the associated database. Isolates were typed by multilocus sequence typing (MLST). Select patient information was analyzed and antibiotic susceptibility patterns were compared. Statistical analysis included Wilcoxon rank-sum and Fisher's exact tests.

Results. Sixty-three patients with 62 isolates were identified from the database (Table); 36 were male. Median age was 3.7y (0.1-17.6y). Disease presentations were pneumonia (n = 33), meningitis (n = 9), bacteremia (n = 7), mastoiditis (n = 6), cellulitis/abscess (n = 7), and peritonitis (n = 1). Twelve (19%) patients had an underlying condition. The MLSTs were 180 (n = 58), 260, 338, 433 and 1116. The MLST distribution did not change over time. All isolates were penicillin and ceftriaxone susceptible. Only 3 were resistant to erythromycin and 2 were resistant to clindamycin.

Characteristics of pediatric serotype 3 infections, 2008-2013

Year	Total invasive SPN	Serotype 3 (% of total)	MLST 180	Pneumonia (% of total serotype 3)	Mean Age (years)
2008	197	11 (6%)	11	8 (73%)	3.1
2009	219	22 (10%)	20	7 (32%)	5.6
2010	165	8 (5%)	7	5 (63%)	3.4
2011	128	5 (4%)	4	1 (20%)	6.2
2012	112	6 (5%)	5	4 (67%)	5.7
2013	104	11 (11%)	11	8 (73%)	6.2
Total	925	63	58	33	5.0

Conclusion. ST 3 isolates chiefly caused pneumonia in this patient population and were mainly MLST180. MLST distribution did not change following introduction of PCV13. No statistical differences in distribution, age, disease presentation, age or, antibiotic susceptibility were observed. A modified vaccine, potentially including non-capsular antigens, is likely required to optimally reduce IPI due to ST 3 in children.

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