ORAL ABSTRACTS

77. Continued Decline in Invasive Pneumococcal Infections in Children Among 8 Children's Hospitals in the United States 2011 to 2013

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Background. Following routine use of the 13-valent pneumococcal conjugate vaccine (PCV13, contains PCV7 serotypes [STs] + STs 1, 3, 5, 6A, 7F, 19A), invasive pneumococcal infections (IPI) declined over 40% in 2011 compared to the average number of cases in 2007 to 2009 at 8 children's hospitals in the United States. The most common STs causing IPI in 2011 were 19A, 7F and 33F (*Pediatr Infect Dis J* 2013;32:203-7). We now report findings for 2012 and 2013.

Methods. IPI have been prospectively identified by investigators at 8 children's hospitals in the US since 1993. Demographic and clinical data are collected on case report forms and isolates are sent to a central laboratory where serotyping and antibiotic susceptibilities are performed. Dichotomous variables were analyzed by chi-square.

Results. The total number of IPI, most common STs and % of children under 60 months old for each year is shown in the table. The total number of IPI has continued to decrease each year primarily related to declines in ST 19A (P = 0.003) and 7F (P = 0.02) isolates. However, ST 3 isolates remained at pre-PCV13 numbers. 9 children with ST 19A isolates and 4 children with ST 3 isolates had received 2 or more doses of PCV13 prior to IPI. In 2013, 3 of 12 children had received 4 PCV13 doses prior to ST19A IPI. Only 3 ST 1, 7 ST 19F, and 0 ST 5 isolates were encountered over these 3 years. STs 33F, 22F, 35B, 10, and 15C were the most common non-PCV13 STs. In 2012 and 2013, almost 75% of isolates were non-PCV13 STs. The % of children with underlying conditions was 45-46% each year. The most common conditions were malignancies (n = 41), cardiovascular (n = 15), genetic (n = 14), renal (n = 13) and central nervous system (n = 10). Non-PCV13 STs accounted for 78% (32/144) of IPI isolates from children with underlying conditions.

Isolates Total	2011 128	2012 112	2013 104
19A	34 (2)*	16 (2)	12 (5)
3	5 (1)	6 (1)	11 (2)
7F	11	3	2
6C	5	3	5
33F	8	10	10
22F	5	9	8
35B	6	4	8
10	3	9	4
15C	3	8	3
23B	2	5	6
23A	4	6	2
12F	3	5	4
% non PCV13	54	73	74
% < 60 mon.	60	63	55

*() number of children who received ≥ 2 doses of PCV13

Conclusion. IPIs among 8 children's hospital continued to decline 2 and 3 years after full implementation of PCV13. STs 19A and 7F cases declined markedly whereas ST3 cases remained unchanged compared with pre-PCV13 findings. The number of non-PCV13 ST isolates has remained steady with STs 33F and 22F being the most common non-PCV13 STs in 2011 to 2013.

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