

1103. Immunogenicity of 13-valent conjugate pneumococcal vaccine in patients 50 years or older with end stage renal disease on dialysis

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Background. The burden of pneumococcal disease in patients (pts) with end stage renal disease (ESRD) is high, with *S. pneumoniae* accounting for more than half of the reported cases of pneumonia in dialysis pts. A diminished immune response to pneumococcal polysaccharide vaccine can be observed in pts with chronic renal failure requiring dialysis. The response to 13-valent conjugate pneumococcal polysaccharide vaccine (PCV13) has not been well studied in patients with ESRD on dialysis.

Methods. Pts were recruited at Lansing, MI area dialysis centers. Eligible pts ≥ 50 years of age with ESRD on dialysis, who have not received pneumococcal vaccination in the last 5 years, were given a single dose of 0.5-mL of PCV13 vaccine. Blood samples for serum antibody titers against pneumococcal capsular polysaccharide 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F was measured at baseline and at 2 months post-vaccination. Response to vaccine was defined as a ≥ 2 -fold increase in antibody concentration from baseline and an absolute post-vaccination value of at least 1 μ g/ml.

Results. Twenty four pts consented to participate in the study. The mean age of pts was 64.5 years (range 50-84 years). Thirteen (54%) pts were female. Antibody response to PCV13 is shown in the table. Vaccine response to at least 1 serotype was seen in 23/24 (95.8%) pts. Response to serotype 6B was seen in 17/24(71%) pts, while 66.7% (16/

24) responded to serotypes 14, 19F and 23F each. Nine (37.5%) pts responded to ≥ 10 vaccine serotypes. Local reaction was seen in 2/24 (8.3%)pts.

Geometric mean titers (GMT) (95% CI) (n=24)

Serotype	Pre-vaccination GMT (μ g/ml)	2 months post-vaccination GMT(μ g/ml)	p-value
1	0.87 (0.38-1.35)	3.07 (2.49- 3.64)	0.002
3	0.42 (0.15- 0.68)	1.34 (0.67- 2.0)	0.03
4	0.44 (0.15- 0.72)	0.79 (0.34- 1.23)	0.025
5	0.85 (0.33- 1.36)	5.34 (4.59- 6.08)	0.008
6A	0.5 (0.26- 0.73)	4.30 (3.44- 5.15)	0.008
14	1.6 (0.77- 2.42)	7.79 (7.01- 8.56)	0.049
19F	1.12 (0.61- 1.62)	5.83 (5.24- 6.41)	0.025
23F	0.53 (0.17- 0.88)	4.24 (3.47- 5.0)	0.009
6B	0.49 (0.10- 0.87)	4.04 (3.18- 4.89)	0.01
7F	0.86 (0.36- 1.35)	3.41 (2.72- 4.09)	0.026
18C	0.96 (0.44- 1.47)	5.46 (4.83- 6.08)	0.01
19A	1.41 (0.70- 2.11)	6.16 (5.42- 6.89)	0.028
9V	0.89 (0.46- 1.31)	2.23 (1.67- 2.78)	0.029

Conclusion. Response to vaccination with PCV13 was noted in most pts with ESRD on dialysis. Several pts showed response to multiple vaccine serotypes. Vaccine was well tolerated.

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