

Abstract 416

## DISTRIBUTION OF ANTIBIOTIC RESISTANT STREPTOCOCCUS PNEUMONIAE STRAINS IN THE CARRIER STATE OF SPANISH CHILDREN WITH ACUTE OTITIS MEDIA VS HEALTHY CHILDREN

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### Background

Nasopharyngeal colonization of *S. pneumoniae* is the first step of the pathogenesis process. In this study, we have analyzed the distribution of serotypes associated to antibiotic resistance colonizing the nasopharynx of children with acute otitis media (OMA) in comparison to healthy children (HC).

### Method

Pneumococcal identification was performed at the Spanish reference-lab. Serotypes were determined by immunoblot and PCR-sequencing. Antibiotic susceptibility was determined by broth microdilution using sensititre panels. Only PEN-I/R (MIC  $\geq 0.12$   $\mu\text{g/ml}$ ) and Ery-R (MIC  $\geq 0.5$   $\mu\text{g/ml}$ ) strains were analyzed in this study.

### Results

We enrolled 360 children vaccinated with PCV13 during 2022-2023 including 185 with OMA and 175 HC. We found a different proportion of colonization in the OMA group vs the HC (Pen-I/R; 32.43% vs 26.28%, Ery-R; 21% vs 29% and AMX-R; 11.35% vs 7% respectively).

PCV13 serotypes accounted for up to 10% of all cases whereas non-PCV13 serotypes were associated to 90% of all cases. Additional serotypes included in PCV15 (22F and 33F) were not associated to Pen-I/R. Among PCV13 serotypes, 19F was only found in the OMA cohort whereas serotypes 19F and 19A we found in HC. Serotypes 11A and 23B were the most frequent non-PCV13 serotypes with PEN-I/R in both groups whereas serotypes 15A/B and 33F were the most frequent non-PCV13 serotypes associated to Ery-R. In terms of strains considered resistant for oral treatment with amoxicillin, serotype 11A was the most frequent (62% in OMA and 58% in HC).

### Conclusions/Learning Points

The use of pneumococcal conjugate vaccines PCV15 and PCV20 could prevent a higher proportion of PenI/R and Ery-R isolates colonizing the nasopharynx of children with OMA in comparison to healthy children.

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