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### **Streptococcus pneumoniae (Spn) Nasopharyngeal Carriage (NPC) in Children Under 3 Years Old, Attending Day Care Centers in Argentina.**

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#### **Background and Aims:**

In 2012 the 13-valent conjugated pneumococcal vaccine (PCV13) was introduced in the National Immunization Program. In a pre-vaccinal carriage study performed in 2007-08 a 51,5% carriage rate was found mainly associated with PCV13-serotypes (56.3%). Aims: 1) to assess the rate of Spn NPC in healthy <3 y.o., attending public and private day care centers from 5 cities of Argentina, between June-September 2015, 2) to determine serotype distribution and antimicrobial susceptibility.

#### **Methods:**

Nasopharyngeal samples were analyzed at reference hospitals of each city and isolates were submitted to the National Reference Laboratory. Serotyping by Quellung and antimicrobial susceptibility by agar dilution method (CLSI) were performed.

#### **Results:**

The carriage rate was 61.6% (221/359). The non-PCV13 serotypes represent 90.9% of the total. The most frequent serotypes were 15B, 23B and 11A (29.9%). Antimicrobial non-susceptibility according meningitis breakpoint was (MIC mg/L): 39.2% penicillin  $\geq 0.12$  (36.9% 0.12-1; 2.3%  $\geq 2$ ); 2.8% cefotaxime MIC $\geq 1$  (2.3% 1, 0.5% $\geq 2$ ), 2.3% meropenem, and nonmeningitis breakpoint: penicillin 1.4% and cefotaxime 0.5%. Non-susceptibility was: erythromycin 17.1% (phenotypes M/MLSb: 54%/46%), tetracycline and doxycycline 13.8%, trimethoprim-sulfamethoxazole 76.5% and 0% for amoxicillin, rifampicin, chloramphenicol, levofloxacin and vancomycin. Main serotypes associated with penicillin non-susceptibility were non-PCV13: 23B (26.2%), 16F (14.3%), 15B (10.7%), 35B (4.8%) and 11A, 15C, 19A and 24F, 3.6% each one.

#### **Conclusion**

SPN NPC in 2015 was higher than in our previous study in 2007-08: 61.6% vs 51.5% ( $p < 0.05$ ). PCV13 serotypes of SPN NPC decreased after massive vaccination. In the present work most of the serotypes were non-PCV13 (90%). Almost 40% of Spn were penicillin non-susceptible, mostly associated to non-PCV13 serotypes (>80%). The new serotype distribution and its associated antibiotic resistance in NPC highlight the importance of this study.