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***Streptococcus pneumoniae* nasopharyngeal carriage in children under 3 years old attending day care centers. Changes after universal introduction of 13-valent conjugated pneumococcal vaccine in Argentina.**

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Background: The 13-valent conjugated pneumococcal vaccine (PCV13) was introduced to national immunization program of Argentina in 2012. Thereafter, an epidemiological study 1- to describe *Streptococcus pneumoniae* (SPN) nasopharyngeal carriage (NC) prevalence and antimicrobial susceptibility was conducted, to compare these results with the ones of a previous-vaccinal carriage study conducted between 2007-8 (Gentile et.al, unpublished data).

Methods: Between June-September 2015 a cross-sectional study among children <3 y.o. attending day-care centers in 5 cities of Argentina was performed. Nasopharyngeal samples were collected, SPN isolates were serotyped by means of the Quellung reaction, and antimicrobial susceptibility was determined by agar dilution method (CLSI). Results were compared with the previous study.

Results: A total of 359 toddlers were included. NC rate was higher when compared with previous study (61,6% (CI 95% 56.3-66.6) vs. 51,5%, respectively; $p < 0,05$). Non-PCV13 serotypes accounted for 90,9% (IC95% 86,3-94,3) of isolations. Most frequent serotypes found were 15B, 23B and 11A rather than 6A, 15B and 19F found in the previous study. Variables associated with carriage were city of residence (Rosario/Posadas), attending public day-care centers, and overcrowding. Antimicrobial non-susceptibility was similar to previous study (Grafic1). Main serotypes associated with penicillin non-susceptibility were non-PCV13: 23 B (25%), 16F (13.6%), 15B (10.2%), 35B (4.5%) and 11A, 15C, 19A and 24F, 3.4% each.

Conclusions: NC of SPN was higher than previous study. Most isolates were non-PCV13 serotypes. Independent predictors for higher prevalence rates were: 1- Children living in Rosario and Posadas. 2- Children attending public day care centers and 3- overcrowding. Almost 40% of SPN isolates were resistant to penicillin, a result similar to pre-vaccine era and most of them associated to non-PCV13 serotypes. The serotype distribution in NC and its associated antibiotic resistance pattern highlights the importance of surveillance in the post vaccine era.

Grafic 1: SPN isolates antimicrobial susceptibility, 2007-8 vs 2015.

