

First National Study of Prevalence for Nasopharyngeal Carriage (NPC) of *Streptococcus pneumoniae* (Spn) among non Vaccinated Children Attending Daycare Centers in Argentina

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Background: Spn usually colonizes the nasopharynx and carriage is related to the development of invasive disease. The aims of this study were: 1) to assess the rate of Spn NPC in healthy, non vaccinated, <3 years children, attending 7 daycare centers from 7 cities, during 2007 winter season 2) to determine serotype distribution and antimicrobial susceptibility of Spn isolates.

Methods: Samples were obtained from 381 children. Two isolates from each sample were serotyped by Quellung. If both isolates presented the same serotype, antimicrobial susceptibility of only one was tested. MIC was performed by agar dilution method (CLSI), and macrolide phenotypes (MLSb and M) by disk diffusion.

Results: 211/381 (55.4%) children carried Spn and 37/211 (17.5%) Spn showed two different serotypes. From 211 samples 411 Spn isolates were serotyped: 6B 10.2%, 19F 9.5%, 15B 9.5%, 14 9.0%, 6A 8.5%, 23F 8.3%, 15C 5.4%, 19A 4.4% and 9V 4.4%. Susceptibility of 242 isolates was evaluated (MIC mg/L): 43.3% penicillin (PEN) ≥ 0.12 (38.8% 0.12-1; 4.5% ≥ 2); 6.6% cefotaxime MIC ≥ 1 (5.8% 1, 0.8% ≥ 2) and 7.8% meropenem MIC ≥ 0.5 (7% 0.5, 0.8% ≥ 1). Non susceptibility, according to nonmeningeal breakpoint was: PEN G 1.2%, amoxicillin 1.6% and cefotaxime 0.8%. Among the 9 most frequent serotypes, 47.6% presented PEN MIC ≥ 0.12 : 19A (73%); 6B, 14, 6A and 15C (52-67%); 19F and 9V (41-44%); 15B and 23F (17-28%). Percentage of resistance was: 20.7 for erythromycin (54% M and 46% MLSb phenotype), 34.7 for trimethoprim-sulfamethoxazole and 0 for vancomycin and ofloxacin.

Conclusions: 1) Spn NPC was >50%, 2) The serotype distribution and antibiotic resistance highlights the importance of epidemiological surveillance before

implementation of Spn vaccination program. 3) 73 % of 19A Spn showed PEN MIC
0.12 – 2 mg/L

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