

Nasopharyngeal Carriage (NPC) of *S. pneumoniae* (Spn) among Non Vaccinated Children during Winter-Summer seasons: First National Study in Argentina

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Background and aims: Spn usually colonizes the nasopharynx and carriage is related to the development of invasive disease. Aims: 1) to assess the rate of Spn NPC in healthy, non vaccinated, < 3 years old children, attending 7 daycare centers from 7 cities, during May-August 2007(winter season-WS) and November 2007-February 2008 (summer season-SS), 2) to determine serotype distribution and antimicrobial susceptibility of Spn isolates.

Methods: Samples were obtained from 730 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 (CLSI), and macrolide phenotypes (MLS_b and M) by disk diffusion.

Results: 51.5% children carried Spn and 13.3% of them showed two isolates with different serotypes. From 376 samples, 728 Spn were serotyped: 6A(12%), 15B(9.9%), 19F(8.5%), 14(7.7%), 6B(7.3%), 23F(7%), 9V(5.9%), 19A(3.8%), 15C(3.6%), 11A(3.6%), others(31.3%). Significant difference ($p \leq 0.05$) in serotype distribution between WS and SS were found: 6B(10.2% vs.3.5%), 15C(5.3% vs.1.3%), 6A(8.5% vs.16.4%), 11A(0.5% vs.7.6%). Susceptibility of 415 isolates was evaluated: 40.7% (43.4% WS-37%SS, $p=0.2$) penicillin ≥ 0.12 mg/L (36.1% 0.12-1mg/L; 4.6% ≥ 2 mg/L); 6.3% cefotaxime ≥ 1 mg/L (5.3% 1mg/L, 1.0% ≥ 2 mg/L) and 7.0% meropenem ≥ 0.5 mg/L (5.3% 0.5mg/L, 1.7% ≥ 1 mg/L). According to non-meningeal breakpoint, no susceptibility was: 1.4% PEN G, 1.9% amoxicillin and 1.0% cefotaxime. Among the ten most frequent serotypes, 42.8% presented penicillin ≥ 0.12 mg/L: 14 and 19A(77-81%); 6A(59%); 9V, 19F, 15C and 6B(35-45%); 15B, 11A and 23F(12-22%). No susceptibility reached: 19.8% for erythromycin (WS: 54% M and 46% MLS_bc; SS: 78.1% M, 18.8% MLS_bc and 3.1% MLS_bi), 48.2% for trimethoprim-sulfamethoxazole and 0% for vancomycin and ofloxacin.

Conclusions: 1) Spn NPC was >50%, 2) Significant differences between seasons were observed mainly in serotypes distribution, 3) 81% of 19A Spn showed penicillin MIC 0.12-2mg/L.

