

## **Serotype distribution and antibiotic resistance of *S.pneumoniae* before and after introduction of 13-valent pneumococcal conjugate vaccine (PCV13) in Argentina**

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**Background-aims:** Diseases caused by *S.pneumoniae* are a major worldwide public health problem especially in children. We aimed to determine serotype distribution and antibiotic resistance of *S.pneumoniae* causing invasive disease(IPD) in children in <2 y.o. before and after introduction of PCV13 in the National Schedule in January 2012.

**Methodology:** *S.pneumoniae* isolates from sterile fluids (110 hospitals, 20 provinces and Buenos Aires city) from January 2010-August 2013 were serotyped by Quellung. MIC was performed by agar dilution(CLSI2013).

**Results:** From 1220 *S.pneumoniae* isolated in <6 y.o., 56% were < 2y.o. Diagnosis: pneumonia(53%), meningitis(19.8%), sepsis(11.8%), other(15.4%).

We compared isolates from children < 2 y.o. in two periods January- August: 2010-11(prePCV13, annual average=147) and 2013(postPCV13, n=77). Serotype distribution (n prePCV13/n postPCV13) was: 14(34/7), 6B(9/2), 7F(9/5), 1(10/5), 3(7/5), 5(16/6), 23F(7/1), 19A(11/5), 6A(8/1), 18C(6/0), 12F(4/4), 19F(5/0), 9V(4/2), NT(4/15), other(14/19). We observed decrease in serotype 14(25.2%-9.1%,p=0.004) and increase in NT(2.4%-19.5%,p<0.0001) and other(9.5%-27.7%, p=0.0008). The prevalence of PCV13 serotypes decreased from 86.4% in prePCV13 to 50.6% in postPCV13 (p<0.0001). No significant differences in resistance were observed between prePCV13 and postCV13 periods: PEN MIC $\geq$ 0.12mg/L 38%/29%; ERY 32%/31%, TET 19%/32%; SXT 35%/45%. However the number of cases of IPD associated with resistance decreased (n prePCV13/n postPCV13): PEN(56/19), ERY(47/20), TET(29/21), SXT(51/29). Resistance to chloramphenicol, levofloxacin, rifampicin nor vancomycin was not detected.

**Conclusions:** Although PCV13 was recently introduced into the immunization schedule, we observed decrease in the number of cases of IPD, as well as in PCV13 serotypes and associated resistance. Surveillance is needed to continue monitoring the impact of PCV13-vaccination program.

