

## **GENOTYPES OF MACROLIDE-RESISTANT *S.pneumoniae* (Spn) ISOLATED FROM ARGENTINEAN PEDIATRIC PATIENTS WITH ACUTE OTITIS MEDIA (AOM)**

V. Reijtman<sup>1</sup>, P. Gagetti<sup>3</sup>, D. Faccione<sup>3</sup>, S. Fossati<sup>3</sup>, P. Sommerfleck<sup>2</sup>, C. Hernández<sup>1</sup>, P. Bernaldez<sup>2</sup>, H. Lopardo<sup>1</sup>, A. Corso<sup>3</sup>

<sup>1</sup>Microbiology Department, Hospital de Pediatría "Prof. Dr. J. P. Garrahan"; <sup>2</sup>Otolaryngology Department, Hospital de Pediatría "Prof. Dr. J. P. Garrahan"; <sup>3</sup>Bacteriology Department, ANLIS "Dr. Carlos G. Malbran"; CABA, Buenos Aires, Argentina

**Background and aims:** AOM is the most common disease caused by Spn and one of the most frequent diagnoses in children <2 y.o. Macrolide-resistant Spn emerged in Argentina in 1995 and represent 26% in invasive infections in <5 y.o. Our aim was to determine the prevalence of *ermB* (ribosomal methylase) and *mefA* (efflux pump) genes in macrolide resistant SPN isolates from AOM and to determine their genetic relatedness.

**Methods:** Serotypes were determined by Quellung, susceptibility was determined by disc diffusion and MIC by agar dilution (CLSI), genotypes by PCR and genetic relatedness by *Sma*I PFGE and MLST.

**Results:** From a total of 324 immunocompetent children with a first episode of AOM that came to our hospital between 05/2009 and 08/2010, 126(39%) Spn were isolated. Of them 26(20.6%) were erythromycin-resistant (ERY-R). Serotypes of ERY-R Spn were: 14 (46.2%), 6A (23.1%), 19F (7.7%), 9V (7.7%) and 6B, 19A, 33F and non-typable (3.8% each one). Percentage of non-susceptibility was: penicillin V(MIC $\geq$ 0.12 $\mu$ g/ml) 65.4%, trimethoprim-sulfamethoxazole 57.7%, tetracycline 50% and penicillin G( $\geq$ 4 $\mu$ g/ml), cefotaxime ( $\geq$ 2 $\mu$ g/ml), chloramphenicol, ofloxacin and vancomycin 0%. Twenty (76.9%) ERY-R Spn carried the *mefA* gene (MIC range  $\mu$ g/ml) (4-64), 5 (19.2%) the *ermB* gene (1024->1024) and 1 (3.9%) *ermB+mefA* genes (1024). A total of 10 clonal types were identified, 77%(20/26) were related to 5 clones: Sweden<sup>15A</sup>-25/ST63(27%), clone B/ST473(23%), England<sup>14</sup>-9/ST9(15%), Spain<sup>9V</sup>-3/ST156(8%) and Poland<sup>6B</sup>-20/ST315(4%).

**Conclusions:** Among Spn from AOM, 20.6% were ERY-R, mainly due to the presence of MefA efflux pump. Dissemination of ERY-R Spn strains was related to at least four international clones.