

**P1518**

**Poster Session VI**

**Molecular epidemiology of pneumococcal serotypes and beta-haemolytic streptococci  
SEROTYPE DISTRIBUTION AND ANTIMICROBIAL SUSCEPTIBILITY OF STREPTOCOCCUS  
PNEUMONIAE ISOLATED FROM PATIENTS WITH INVASIVE PNEUMOCOCCAL DISEASE**

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**Objectives**

*Streptococcus pneumoniae* is a major cause of invasive infections. The aim of this study was to evaluate the serotype and antimicrobial susceptibility of invasive pneumococci isolated at a university hospital between January 2011–November 2013 and its representation in pneumococcal conjugate vaccine (PCV13) and pneumococcal polysaccharide vaccine (PPV23).

**Methods:**

A retrospective study of *S. pneumoniae* isolated from blood and cerebrospinal fluid was performed. Serotyping and susceptibility to penicillin, cefotaxime, erythromycin, levofloxacin and vancomycin was determined at National Institute of Health Carlos III, Madrid, Spain (national reference laboratory).

**Results:**

Totally 80 clinical isolates from invasive infections were investigated, 74 (92%) from blood and 6 (8%) from cerebrospinal fluid which represented 27 different serotypes. Sixty-seven (84%) were isolated from adults and 42 (52 %) were older than 60 years of age.

Most common serotypes strains were 3 (15%), 7F (10%), 19A (8.8%) and 6C (6.3%). The distribution for the rest was: 1, 10A and 15A (5.0% each), 4, 16F, 23B, 24F and 9N (3.8% each), 14, 22F, 23A, 24A and 6A (2.5% each) and 6B, 8, 31, 38, 11A, 12F, 17F, 19F, 23F and 9V (1.3%). One strain was non-typifiable (1.3%).

The distribution of vaccine serotypes was 40 % for PCV13 and 62 % for PPV23.

For meningeal isolates, penicillin MIC was  $\leq 0.06$  ug/mL in 2 cases (33.3%) and 0.12-1 in 4 cases (66.6%). Cefotaxime MIC was  $\leq 0.5$  ug/mL in all cases (100%). For blood isolates penicillin MIC was  $\leq 2$  ug/mL in 72 cases (97.3%) and  $\geq 4$  in 2 cases (2.7%). Cefotaxime MIC was  $\leq 1$  ug/mL in 72 cases (97.3%) and  $\geq 4$  in 2 cases (2.7%) as well. Erythromycin MIC was  $\leq 0.25$  ug/mL in 55 of the isolates (68.7%) and  $\geq 1$  in 25 (31.3%). For levofloxacin MIC was  $\leq 2$  in 79 cases (98.7%) and only one strain (1.3%) showed MIC  $\geq 8$ . MIC for vancomycin was  $\leq 1$  in all cases (100%)

**Conclusions:**

Despite serotypes diversity, 3, 7F and 19 accounts for 1/3 of the total in our study.

Most of the meningeal isolates showed a decreased susceptibility to penicillin.

The importance of local serotype data may help predict the potential benefit of pneumococcal vaccines.