eP154
ePoster Viewing
Vaccines for pneumococci, Haemophilus and meningococci

INVASIVE PNEUMOCOCCAL DISEASE IN CHILDREN AND ADOLESCENTS: INCIDENCE OF INFECTION AND SEROTYPE COVERAGE OF CONJUGATE VACCINES IN PORTUGAL

S.I. Aguiar[1], M.J. Brito[2], A. Hor·cio[1], J.P. Lopes[1], **M. Ramirez**[1], J. Melo-Cristino[1]

[1]Instituto de Microbiologia, Instituto de Medicina Molecular, Lisbon, Portugal ; [2]Microbiologia, Centro Hospitalar de Lisboa Central, Lisbon, Portugal

Objectives: The introduction of the 7-valent pneumococcal conjugate vaccine (PCV7) led to changes in the serotypes and also often to declines in the incidence of invasive pneumococcal disease (IPD). Two new pneumococcal conjugate vaccine (PCV) formulations are now commercially available and used in children, namely a 10-valent formulation (PCV10) and a 13-valent conjugate vaccine (PCV13). These expanded valency PCVs for childhood vaccination- PCV10 and PCV13- became available in mid-2009 and early-2010 and soon after the availability of the latter most vaccination was done with PCV13. Recently PCV13 received a broader indication for all persons and although not part of the National vaccination Plan (NVP) in Portugal it reached a coverage of 75% and led to changes in the serotypes causing IPD. This study aimed at evaluating the proportion of vaccine preventable IPD in children and adolescents (0-17yrs) between 2008-09 and 2011-12.

Methods: Between July 2008 and June 2012 a total of 471 cases of IPD recovered from patients <18 yrs were reported. Among these 392 isolates were available for serotyping and antimicrobial resistance profiling.

Results: The overall incidence of IPD in the pediatric population declined from 8.19 cases/100,000 children in 2008-2009 to 4.52 in 2011-2012. IPD due to the serotypes included PCV7 in infants and toddlers remained constant, in spite of over 10 years of vaccine use, although it declined in older children. The decrease in IPD resulted from: 1) declines in the additional serotypes included in PCV10 and PCV13 (1, 5, 7F), particularly serotype 1, in older children and, 2) to massive reductions of the additional serotypes included in PCV13 (3, 6A, 19A), particularly serotype 19A, in younger children. The delayed effect in serotype 19A and the simultaneous decline of serotype 1 in all groups suggests an important role of PCV13 in the former but that other factors may have triggered the decline of the latter, possibly intensified by vaccination. The small rise in IPD caused by non-vaccine serotypes only marginally compromised the decline in disease due to the drop of PCV13 serotypes.

Conclusions: In spite of significant declines, PCV13 serotypes remain major causes of IPD, highlighting the potential role of enhanced vaccination in reducing pediatric IPD in Portugal.