1489. Invasive Pneumococcal Disease in a Population with Underlying Comorbidities

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Background. Streptococcus pneumoniae (Spn) is a major cause of severe and life-threatening diseases in children and particularly among individual with high-risk illnesses at all ages. As there is limited clinical data on IPD in high-risk patients and indirect effect of vaccination in the post-PCV10 era in developing countries, we’ve assessed the epidemiology of IPD in patients with selected underlying diseases before and after PCV10 introduction at Santa Casa de São Paulo (SCSP), Brazil.

Methods. We performed a prospective hospital-based surveillance study of patients with IPD from January 2000 to April 2017, including all cases of IPD (i.e. isolation of Spn from a normally sterile body fluid) among patients at all ages. Selected cases were stratified into 5 age groups to evaluate comorbidities and the effect of the PCV10 on different ages. Identified serotypes were grouped according to the available pneumococcal vaccines and further analyzed into pre-vaccination (2000–2009) and post-vaccination periods (2010–2017). Clinical information was extracted from patient’s records, then stratified based on their IPD risk profile. Ethical approvals to conduct the study were obtained from the SCSP institutional review board.

Results. 571 episodes were identified in 561 patients in all age groups, of which 440 (78.4%) had clinical data for analysis: 20.7% healthy; 79.3% had comorbidities. 440 (78.4%) had clinical data for analysis: 20.7% healthy; 79.3% had comorbidities.

Conclusion. AES reported to VAERS following PCV13 were consistent with AES previously observed in pre-licensure clinical trials and other post-licensure studies of PCV13. No new or unexpected patterns of AES were identified.

Disclosures. All authors: No reported disclosures.

1490. Pneumococcal Vaccination Provides Substantial Value for Canadians

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Background. Introduction of pneumococcal conjugate vaccines (PCV) to the Canadian childhood routine immunization schedules (RIS) resulted in significant benefits. The 7-valent PCV was added to all provinces’ RIS between 2002 and 2006. The 10-valent PCV was used in Ontario and Quebec for 12 to 18 months in 2009 and 2010. The 13-valent PCV was marketed in 2010 and rapidly adopted by all provinces. Direct vaccine protection reduced incidence of invasive pneumococcal disease (IPD), pneumonia (PNE) and acute otitis media (AOM) in vaccinated children. Indirect vaccine protection also reduced the burden of disease (BOD) in other age groups. Sensible public funds allocation motivates continued evaluation of public health programs.

Objective: To evaluate the economic impact of PCVs to Canadian society following nationwide RIS implementation.

Methods. Canadian databases and literature were reviewed to obtain pre- and post-PCV incidence of IPD, PNE and AOM, as well as direct and indirect medical costs (reported in 2017 $ CAD). Case counting interval was set to Jan 2005, at which point PCV RIS were implemented for over 90% of Canadians. A steady state scenario using annual pre-PCV incidence rates was projected to Dec 2015 to estimate the number of cases without PCVs. Averted cases were obtained by subtracting the cases reported from the estimated case count without PCVs. Disease specific costs were assigned to averted cases and vaccine spend was subtracted from the total to obtain net savings to Canadian society.

Results. Successive implementation of PCVs on the provinces’ RIS saved 2,365 lives and resulted in net savings of CAD $203 million between Jan 2005 and Dec 2015. These savings stem from averted direct and indirect medical costs associated with IPD, PNE and AOM cases.

Table 1 – BOD and related costs avoided by PCV use, 2005–2015

| With PCVs | Without PCVs | Difference |
|-----------|--------------|------------|
| Case count | Bacteraemia | 27041 | 36 808 | -9 767 |
| Meningitis | 14 461 | 19 685 | -5 223 |
| Hospitalized PNE | 366 927 | 386 413 | -19 486 |
| Nonhospitalized PNE | 545 230 | 589 251 | -44 021 |
| AOM | 3 629 952 | 3 744 476 | -144 524 |
| Costs ($ million) | 7 123 | 8 078 | -955 |
| Vaccine cost | 7 973 | 7 973 | 0 |
| Total | 7 876 | 8 078 | -203 |
| Other (no cost considered) | 36 917 | 39 282 | -2 365 |

Conclusion. Introduction of PCVs resulted in reduced pneumococcal burden of disease and net economic benefits to Canadian society.

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1491. The Risk of Febrile Seizures Following Influenza and 13-Valent Pneumococcal Conjugate Vaccines

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Background. Evidence on the risk of febrile seizures (FS) following vaccination with inactivated influenza vaccine (IIV) and 13-valent pneumococcal conjugate vaccine (PCV13) is mixed. Among children 6–23 months, we examined the risk of FS following IIV and PCV13 during the 2013–14 and 2014–15 influenza seasons, for which vaccine virus strains were the same.