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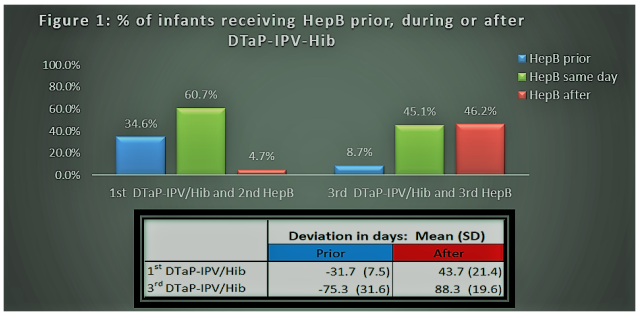
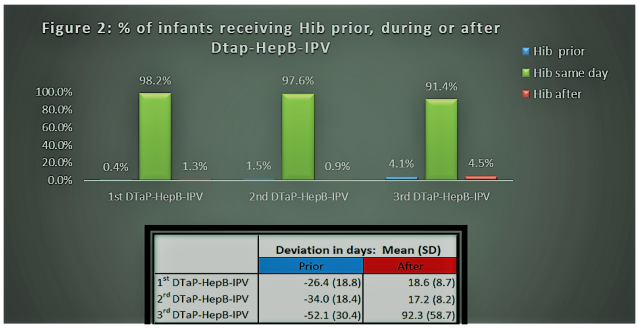
Background: The recommended US infant immunization schedule includes doses of DTaP, IPV, Hib and HepB during the first 6 months of life. The majority of infants receive DTaP as one of the two pentavalent combination vaccines (DTaP-IPV/Hib or DTaP-HepB-IPV); standalone HepB or Hib are used to complement these combinations in compliance with the recommendations. Little is known about the timing of standalone vaccine administration in relation to DTaP-based combination vaccines.

Methods: This was a retrospective observational cohort study using the US MarketScan commercial claims and encounters database. Infants included in the study were continuously enrolled in the same insurance plan for ≥13 months after birth, born from 1 July 2010 through 30 June 2016, and had received ≥3 doses of a pentavalent vaccine. Outcomes included the proportion of infants receiving concomitant pentavalent and standalone vaccines, and the deviation in days when these vaccines were not administered on the same date. Birth doses of HepB were not registered in the database but were presumed to have been received; therefore, the first registered HepB claim was considered to be HepB Dose-2, and the second claim was presumed to be HepB Dose-3.

Results: Among infants who received DTaP-IPV/Hib (n = 175,574), 94.8% had claims for ≥3 doses of HepB. Although coverage was high, only 60.7% received HepB Dose-2 on the same day as DTaP-IPV/Hib Dose-1 (around 2 months of age), and only 45.1% received HepB Dose-3 on the same day as DTaP-IPV/Hib Dose-3 (around 6 months of age) (Figure 1). Many infants (46.2%) received HepB Dose-3 after the third dose of DTaP-IPV/Hib. Among infants who received DTaP-HepB-IPV (n = 97,206), 89.9% had claims for the recommended number of Hib doses; most (91% to 98%) of these doses were administered on the same day as doses of DTaP-HepB-IPV (Figure 2).

Conclusion: There was variability in the timing of HepB doses in infants receiving DTaP-IPV/Hib. A newly licensed hexavalent vaccine, DTaP-IPV-Hib-HepB, could synchronize and simplify the HepB administration schedule ensuring that more infants have completed the series by 6 months of age.





Disclosures. **All authors:** No reported disclosures.

2699. Pneumococcal Vaccination During Chemotherapy in Children Treated for Acute Lymphoblastic Leukemia

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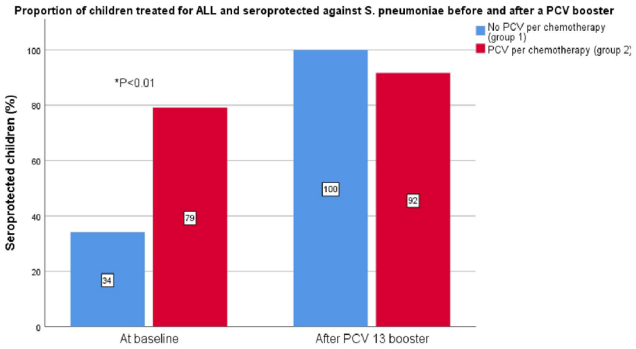
Background: Children undergoing therapy for acute lymphoblastic leukemia (ALL) are at high risk of invasive pneumococcal disease (IPD). Immunization with conjugated vaccines following chemotherapy is recommended for pediatric patients. In an attempt to provide an earlier protection against invasive pneumococcal infection, we aimed to assess immunity to *S. pneumoniae* among children vaccinated during chemotherapy for ALL.

Methods: We retrospectively analyzed the rate of seroprotection among ALL children treated in our institution in accordance with the DFCI ALL Consortium protocol between 2007 and 2014. A pneumococcal conjugate vaccine (PCV) booster was given to all subjects after the end of chemotherapy (groups 1 and 2). In group 2, a PCV dose was also administered during the maintenance phase. Clinical characteristics as well as individual immunization records were collected from our local immunization database. All children were up to date with their vaccination schedule at diagnosis. Serum samples were obtained on a routine follow-up visit, after the end of chemotherapy and after the PCV vaccine booster to measure serotype-specific IgG pneumococcal antibodies. Antibody level ≥0.35µg/mL was considered protective. Patients with seroprotective antibodies level for ≥ 50% of serotypes contained in vaccines were defined as seroprotected.

Results: 62 children [34 girls (54.8%)] were included in the analysis. Median age at diagnosis was 45 months (range:12–160).

At the end of chemotherapy, 34.2% of children in group 1 (13/38) and 79.2% in group 2 (19/24) were seroprotected (P < 0.01). Median interval of time between the end of chemotherapy and the PCV booster vaccination was 6 months (range: 2–64 months). After PCV-13 booster, the rate of seroprotection raised to 100% (38/38) in group 1 and 91.7% in group 2 (22/24).

Conclusion: Rates of pneumococcal seroprotected children treated for ALL are low at the end of chemotherapy. However, PCV booster during chemotherapy could be useful to increase the level of seroprotection and shorten the period of susceptibility to IPD. After chemotherapy for ALL, children benefit from a PCV booster to enhance seroprotection.



Disclosures. **All authors:** No reported disclosures.

2700. Evaluation of 10- and 13-Valent Protein Conjugate Pneumococcal Vaccine Effectiveness for Children in Korea

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Background: Pneumococcal vaccination for infants was introduced to the mandatory National Immunization Program (NIP) of Korea in May 2014. Both 10- and 13-valent protein conjugated vaccines (PCV) have been in use with 3 + 1 dose schedule. We assessed the vaccine effectiveness in protecting children from all-cause pneumonia (ACP), pneumococcal pneumonia (PP), invasive pneumococcal diseases (IPD), and acute otitis media (AOM).

Methods: The birth cohort of children born between 2013 and 2015 was identified from the national population registry for retrospective observation. Vaccination status was confirmed through NIP registry by Korean Centers for Disease Control and Prevention, and disease occurrence was detected through the National Health Insurance System. Children who finished at least 3-doses of PCV were classified vaccinated while who did not receive any type of pneumococcal vaccine until study end were classified unvaccinated. The outcome of interest was hospital admission from any of pneumococcal infections among ACP, PP, IPD or AOM. After adjusting for high risk and underlying conditions, the vaccine effectiveness (VE) was calculated with Cox regression. VE of different valent PCV was also compared within fully vaccinated (4-doses) children.

Results: A total of 1,243,432 children were included. Fifty-one percent of children were boys and median age was 30-months. Ninety-eight percent were vaccinated and 89% of them were fully vaccinated. The incidence (per 100,000 person-years) of ACP was 10,982 in vaccinated and 9,276 in unvaccinated, and that of IPD and AOM were 1.0 vs 1.5 and 45.7 vs 31.3, respectively. The vaccine had protective effect for ACP (VE 20.2% [95% CI 19.5–20.9]), PP (VE 25.5% [95% CI 21.1–29.6]), IPD meningitis (VE 93.6% [95% CI 27.1–99.4]) and AOM (VE 4.6% [95% CI 4.1–5.1]). When fully vaccinated with PCV10, compared with PCV13, it was statistically more protective against ACP (VE 22.7% vs. 19.6%, P = 0.033) and PP (VE 50.8% vs. 21.3%, P < 0.001) but not different against AOM (VE 4.2% vs. 6.0%, P = 0.53).

Conclusion: Four-doses of PCV strategy for children in current mandatory NIP is effective for protecting the vaccinated from ACP, PP, IPD, and AOM.

Disclosures. **All authors:** No reported disclosures.