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**Background and Aims** Transmission of immune competence from mothers to newborns is crucial for optimal development of neonate immune system. Maternal perinatal probiotics supplementation having been observed to be able to modulate this process, the goal of the present study was to investigate the importance of the time window of probiotics intervention (pregnancy/lactation) on early-life immune maturation and response to immunization.

**Methods** Pregnant C57/BL6 mice were supplemented with *Bifidobacterium lactis* CNCM I-3446,  $2.5 \times 10^8$  CFU/day, during either end of gestation and lactation, end of gestation only or lactation only. Maltodextrin was given during both periods (placebo) or in replacement of probiotics when not administered. Immune maturation was assessed by measuring natural mucosal IgA production (ELISPOTs) at weaning and 6 weeks later. Pups were mucosally immunized at weaning, and again four weeks later, with live attenuated *Salmonella typhimurium* ΔaroA. Two weeks after the second immunization, specific antibody responses in serum were analyzed.

**Results** All probiotic regimens significantly enhanced natural IgA production in pups in comparison to placebo, an effect observable up to the end of study, 6 weeks post-weaning. Supplementation during end of pregnancy and lactation, or lactation only provided significantly highest values. Specific antibody titers tended to be potentiated by all three regimens in pups responding to immunization, with highest values being obtained after supplementation during both periods.

**Conclusions** This study further supports the benefit of maternal perinatal intervention with probiotics on neonatal immune maturation, moreover emphasizing that supplementation during both pregnancy and lactation is needed to achieve overall optimal effects.

## 268 SEROTYPE AND ANTIMICROBIAL SUSCEPTIBILITY DISTRIBUTION OF INVASIVE *STREPTOCOCCUS PNEUMONIAE* ISOLATED FROM CHILDREN IN TURKEY

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*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 14 different centers in Turkey between January 2011–April 2012. Totally 79 clinical isolates from invasive infections were investigated, which were isolated from cerebrospinal fluid (CSF) (33, 42%), blood (31, 39%) and the other sterile body fluids (15, 19%). Susceptibility to penicillin, cefotaxime and erythromycin was determined by E-test (bioMérieux, France) according to CLSI standards. Latex agglutination method was used for determination of serogroups. Serotypes were determined by the capsular swelling (Quellung reaction) method (Denmark, Statens Serum Institute). It was found that most common serotypes among 79 strains were 19 F (12, 15%), 6 A (7, 9%), 23 F (5, 6%), 6 B (4, 5%), 19 A (4, 5%) and 3 (4, 5%). For all invasive pneumococcal diseases, during the first 2 years of age, the potential coverage rates of PCV7, PCV10, and PCV13 were 47.8%, 56.5%, and 82.6%, respectively; meanwhile 40.5%, 44.3%, and 63.3% for the pediatrics age group (0–18). Serotypes 19F, 6A, 19A, 23F, 6B, 14 and 3 were predominate. All pneumococcal conjugate vaccine formulations cover these

serotypes with the exception of serotype 19A which is covered only by PCV13. Serotype 19A has steadily increased in prevalence and become increasingly resistant to common antibiotic classes. Rational antibiotic use and vaccination of infants with pneumococcal conjugate vaccines should be considered as essential strategies for prevention of pediatric invasive infections in Turkey.

## 269 SHIFTING SEROPOSITIVITY FOR HEPATITIS A IN CHILDREN IN ISTANBUL, TURKEY FROM 1996 TO 2011

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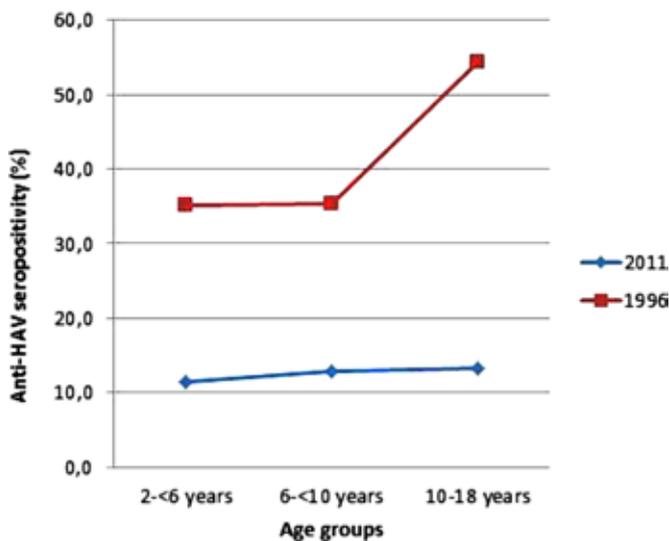
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**Background** Hepatitis A virus (HAV) is transmitted by the fecal-oral route, and the epidemiology of HAV is associated with hygiene and socioeconomic status. However, due to improvements in living conditions, there is an epidemiological shift in HAV infection.

**Methods** In this study, we investigated the seropositivity for HAV in children aged between 2 and 18 years. In addition, we compared the results with previously reported seropositivity data from the same center in Uskudar, Istanbul, Turkey, from 1996.

**Results** The mean age of the 400 children was  $7.9 \pm 3.7$  years (range: 2–18). Of the 400 serum samples collected, all were tested for anti-HAV IgG, and 50 (12.5%) were positive. The rates of anti-HAV seropositivity within the age groups of 2- < 6, 6- < 10 and 10–18 years were determined. The seropositivity increased with increasing age: 11.5% in the 2- to < 6-year-old group and 13.2% in the 10- to 18-year-old group.

**Conclusions** There was a significant decline in the overall seropositivity for anti-HAV between 1996 and 2011 ( $p < 0.001$ ), and the pediatric age group has a high risk of HAV infection.



Abstract 269 Figure 1 Shifting seropositivity for Hepatitis A

In 1996, the overall seropositivity was 41.3%. In the 1996 study, the seropositivity was 35.2% in 2- to < 6-year-old age group, 35.3% in the 6- to < 10-year-old age group and 54.3% in children older than 10 years. Given the serological shift over time, greater susceptibility and a persistent risk of exposure to HAV suggest that outbreaks are possible.

## 270 H1N1 PANDEMIC: COMPARISON OF THE CLINIC PRESENTATION BETWEEN CANADA AND FRANCE IN CRITICALLY ILL CHILDREN

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