thrombocytopenia and leukopenia), vasculitis, hepatitis and aseptic meningitis. There were no deaths in our cohort.

| Children (n = 52) | Adults (n = 160) | Pvalue |
|-------------------|------------------|--------|
| Age, years        |                  |        |
| 6.8 ± 4.1         | 39 ± 10.7        |        |
| Male sex          |                  |        |
| 31 (59.6%)        | 26 (12.3%)       | 0.0001 |

Clinical presentation

| Biphasic presentation | Fever | Rash | Myalgia | Arthralgia | Headache | “Slapped cheeks” | Peripheral edema | Anemia | Leukopenia | Arthralgia | Vasculitis | Other |
|-----------------------|-------|------|---------|------------|----------|-----------------|-----------------|--------|------------|------------|------------|-------|
| 8 (15.4%)             | 26 (50.0%) | 51 (98.1%) | 9 (17.3%) | 3 (5.8%) | 29 (55.8%) | 6 (11.5%) | 4 (7.7%) | 1 (1.9%) | 4 (7.7%) | 2 (3.8%) | 5 (9.6%) | 0.6076 |

Conclusion. Parvovirus B19 infection has different clinical presentation, laboratory findings and complications in children and adults. Since the diversity of the clinical manifestations in adults may be misleading, the infection in adults should be suspected when disease is prevalent in children.

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1056. Single-dose Universal Hepatitis A Immunization in 1-Year-Old Infants in Argentina: High Prevalence of Protective Antibodies up to 11 Years Following Vaccination

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Background. Single-dose Hepatitis A Virus (HAV) vaccination was implemented in all Argentinean children aged 12 months in 2008, instead of the standard two-dose schedule. Previous studies demonstrated a dramatic decline in HAV infection rates, fulminant hepatitis, and liver transplantation along with low viral circulation and high prevalence of protective antibody response 8 years following the intervention. This study assessed long-term seroprotection against HAV after vaccination with this novel scheme.

Methods. Children who received one dose of HAV vaccine at 1 year of age, at least nine years before enrollment, were included at three centers in Argentina between May 2013 and 2016. Demographic and socio-economic characteristics of the child, mother and house were collected through a questionnaire after informed consent signature. Blood samples were tested for anti-HAV antibodies. Antibody titers ≥10 mIU/mL were considered seroprotective. Logistic regression analysis was done to evaluate associations between different variables and seroprotection.

Results. Of 1119 children included, 97.0% lived in urban areas, 92.7% had safe water access and 57.8% had sewers at home. Mean age was 10.7 years, and the mean post-vaccination interval was 9.7 years (Range: 9.0–11.3 years). Of the total, 87.6% had protective antibody titers against HAV. Higher seroprotection rates were observed in Buenos Aires compared with the global rate (91.9% vs. 87.6%; OR 1.94 [95% CI: 1.27–2.95]; P = 0.002). In contrast, lowest rates resulted in San Justo, Buenos Aires (81.4% vs. 87.6% OR 0.45 [95% CI: 0.32–0.65]; P < 0.001). No association between socio-economic variables and seroprotection was found. Geometric mean concentration (GMC) of HAV antibody titer was 12.40 in San Justo than 4.30 in Buenos Aires.

Conclusion. Single-dose universal hepatitis A immunization in infants resulted in sustained immunologic protection up to 11 years in Argentina. Lower seroprotection rates in San Justo have no clear reason and were not associated with an increase in these cases in that area. These findings along with the low current disease burden confirm the success of the intervention.

Disclosures. *All authors: No reported disclosures.

1057. No Viral Spreading After Rotavirus Vaccination in NICU

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Background. Preterm and low birth weight infants are considered to be high risk for severe rotavirus gastroenteritis. However, it has been demonstrated that many infants are ineligible for receiving rotavirus vaccine due to the age limitation within the neonatal intensive care unit (NICU). We sought to elucidate the safety of rotavirus (RV) vaccination in NICU by assessing vaccine virus transmission from vaccine recipients in NICU.

Methods. This study was designed as the prospective study conducted at the NICU of Fujita Health University hospital and Konan Kosei Hospital. This study was approved by the ethical committee in our university. Premature age-eligible infants were considered to administer rotavirus vaccine. HIB-rotavirus (RV) vaccine was serially collected from unvaccinated infants (UVI) and vaccinated infants (VI) who received either the pentavalent rotavirus vaccine (RV5) or monovalent rotavirus vaccine (RV1).

Results. Of 1119 children included, 97.0% lived in urban areas, 92.7% had safe water access and 57.8% had sewers at home. Mean age was 10.7 years, and the mean post-vaccination interval was 9.7 years (Range: 9.0–11.3 years). Of the total, 87.6% had protective antibody titers against HAV. Higher seroprotection rates were observed in Buenos Aires compared with the global rate (91.9% vs. 87.6%; OR 1.94 [95% CI: 1.27–2.95]; P = 0.002). In contrast, lowest rates resulted in San Justo, Buenos Aires (81.4% vs. 87.6% OR 0.45 [95% CI: 0.32–0.65]; P < 0.001). No association between socio-economic variables and seroprotection was found. Geometric mean concentration (GMC) of HAV antibody titer was 12.40 in San Justo than 4.30 in Buenos Aires.

Conclusion. Single-dose universal hepatitis A immunization in infants resulted in sustained immunologic protection up to 11 years in Argentina. Lower seroprotection rates in San Justo have no clear reason and were not associated with an increase in these cases in that area. These findings along with the low current disease burden confirm the success of the intervention.

Disclosures. *All authors: No reported disclosures.

Clinical presentation: meningitis (14/20), pneumonia (6/20) and arthrits (5/20), osteomyelitis (1/20). All patients with meningitis, 25% of pneumonias and 50% of arthrits had positive blood cultures. HIB was isolated from blood in 17/20 cases, cerebrospinal fluid in 7/14, joint fluid in 3/5 and pleural fluid in 2/6. Median WBC: 12,400 mm3 (1,600–42,900) and median C-reactive protein level 111 mg/L (7–385). Median days of hospitalization was 13 (8–40). Nine patients required intensive care, four of them required mechanical ventilation. No patients died.Abbreviated studies ruled out immunodeficiency in 10 patients although four continue under study.
Results. Total of 676 stool samples (89 samples collected from the 9 RV5 vaccinated infants, 110 samples collected from the 10 RV1 vaccinated infants, and 477 samples collected from the 49 UVIs) were analyzed in this study. Nineteen VIIs received with first dose of vaccine demonstrated persistent shedding of rotavirus vaccine genome during 1–8 days after the first dose of the vaccine. Meanwhile, in comparison to VIIs received with first dose of vaccine, the detection of viral genome in stool samples decreased gradually in there VIIs after second dose of vaccine. In contrast to the VI, no vaccine genome was detected in any of the stool samples collected from the UVIs.

Conclusion. This study suggests that RV vaccine may be safe for use in infants of both normal weight and low birth weight infants in NICU. Accordingly, the contact precaution measures may play an important role in prevention of vaccine virus transmission between VIIs and UVIs.

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1058. M Protein-Deficient Respiratory Syncytial Virus (RSV) Vaccine Protects Infant Baboons Against RSV Challenge

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Background. RSV bronchiolitis is the most common cause of hospitalization of infants in the US, and may lead to the development of long-term airway disease. Inactivated vaccines may lead to enhanced disease, while replicating vaccines have caused unacceptable degrees of illness, and may revert back to wild type. We developed an RSV vaccine lacking the gene for the M protein (Mnull RSV). The M protein is responsible for reassembly of the virus after it infects cells and expresses its proteins. Infant baboons vaccinated intranasally (IN) with Mnull RSV develop serum neutralizing antibody (NA) responses, but the virus does not replicate.

Methods. 2-week-old baboons (n = 12) were primed IN with 104 vaccine units of Mnull RSV or a control preparation, and a similar booster dose was given 4 weeks later. Mnull RSV vaccine did not cause tachypnea, airway obstruction or other signs of illness when compared with sham-vaccinated controls. Two weeks after boosting, all infants were challenged intratracheally with human RSV A2. We continuously monitored respiratory rates and levels of overall activity. On various days following challenge, we obtained BAL fluids for leukocyte counts and degree of virus replication, and evaluated alveolar-arterial oxygen gradients (A-a O2).

Results. Vaccinated animals (vs. unvaccinated controls) had lower respiratory rates (P = 0.0014), improved A-a O2 (P = 0.0063) and reduced viral replication (P = 0.0014). Activity scores were higher in vaccine recipients than in unvaccinated animals. Vaccine recipients also were primed for earlier serum and secretory neutralizing antibody responses, and greater airway lymphocyte responses. Airway lymphocyte numbers (but not antibody responses) were associated with lower respiratory rates and reduced viral replication (P < 0.01).

Conclusion. Vaccination intranasally with Mnull RSV protected infant baboons against an RSV challenge without causing respiratory disease or enhanced illness, and is a promising candidate for use in human infants. Lymphocyte responses to vaccination may play an equal or greater role in protection against RSV infection than antibody responses.

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1059. Measles, Mumps, and Rubella Antibody: Patterns of Persistence and Rate of Decline Following the Second Dose of the MMR Vaccine

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Background. Antibodies to measles, mumps, and rubella decline an estimated average of 3% per year, and have a high degree of variation among individuals. Yet, this variation and differences in individual-level response to the 3 antigens are not well understood. To better understand potential implications on individual and population-level susceptibility, we reanalyzed existing longitudinal data to identify patterns of seropositivity and antibody persistence.

Methods. Wisconsin children given the second dose of measles, mumps, and rubella vaccine (MMR2) at age 4–6 years were followed up to 12 years postvaccination. The rate of antibody decline and factors associated with the rate of decline were assessed using regression models that accounted for differences between and among subjects.

Results. Most of the 302 participants were seropositive throughout follow-up (96% measles, 88% mumps, 79% rubella). The rate of antibody decline was associated with MMR response and baseline titer for measles and age at first dose of MMR (MMR1) for rubella. None of the demographic or clinical factors examined were associated with rate of decline for mumps. One month after MMR2, geometric mean titer (GMT) for measles was high (3892 mIU/mL), but declined on average 9.7% per year among subjects with the same baseline titer and <2-fold increase in antibody titer after MMR2. Subjects with >2-fold increase experienced a slower decline (≤7.4%). GMT to rubella was 149 IU/mL one month after MMR2 and declined 2.6% and 5.9% per year among those who received MMR1 at 12–15 months and >15 months, respectively. GMT to mumps one month after MMR2 was 151 and declined 9.2% per year. Only 14% of participants had the same trends in antibody persistence for all 3 antigens.

Conclusion. The rate of antibody decay varied substantially among individuals and among the 3 antigens. Despite waning titers, measles and rubella antibody levels remained high 12 years post MMR2. However, a fast rate of decline and high degree of variation was observed for mumps, yet no predictors of the decline were identified. Future research should focus on better understanding waning antibody titers to mumps and its impact on community protection and individual susceptibility, in light of recent mumps outbreaks in vaccinated populations.