healthcare facilities that are receiving contributed product; **R. Platt**, Clorox: Receipt of contributed product, Conducting clinical studies in which participating healthcare facilities are receiving contributed product; receive research funds from Clorox, but Clorox has no role in the design; Molnlycke: Receipt of contributed product, Conducting studies in healthcare facilities that are receiving contributed product; Sage Products: Receipt of contributed product, Conducting studies in healthcare facilities that are receiving contributed product; Xttrium: Receipt of contributed product, Conducting studies in healthcare facilities that are receiving contributed product

1001. A Single Dose Monoclonal Antibody (mAb) Immunoprophylaxis Strategy to Prevent RSV Disease in All Infants: Results of the First in Infant Study with MEDI8897

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Session: 135. PIDS Featured Abstracts
Friday, October 6, 2017: 10:30 AM

Background. RSV is the most common cause of lower respiratory tract infection (LRTI) among infants making prevention of RSV disease a public health priority. A significant unmet need exists for RSV prevention in healthy infants. Our goal is to develop a mAb with an extended half-life ($t_{½}$) capable of protecting infants for an entire RSV season by using a single intramuscular (IM) dose. This study was conducted to evaluate the safety profile, pharmacokinetics (PK), RSV neutralizing antibody titers, and anti-drug antibody (ADA) responses for MEDI8897 in healthy preterm infants born between 32 and 35 weeks gestational age.

Methods. Infants were randomized 4:1 to receive a single IM injection of MEDI8897 10 mg (n = 8), 25 mg (n = 31), 50 mg (n = 32) or placebo (n = 18) and followed for 360 days. Enrollment occurred during the 2,015 RSV seasons in the US, South Africa, and Chile. Blood was collected at multiple timepoints. Infants who met criteria for a medically-attended (MA) LRTI had nasal swabs obtained for RSV testing by RT-PCR.

Results. A total of 85/89 (95.5%) infants completed the study. Adverse events (AEs) were reported in 17/18 (94.4%) placebo and 66/71 (93.0%) MEDI8897 recipients. Five serious AEs (three LRTIs, two febrile seizures) were reported in three MEDI8897 recipients. No events were consistent with hypersensitivity reactions. The estimated MEDI8897 serum $t_{½}$ ranged from 62.5 to 72.9 days. On day 151, 87% of the infants who received the 50 mg dose of MEDI8897 had serum concentrations above the target EC_{90} level of 6.8 µg/ml, and 93.3% showed a ≥3-fold rise from baseline in serum anti-RSV neutralizing antibody titers. ADA was detected in 28.2% of MEDI8897 recipients, but when present was not associated with any safety findings. ADA was detected at day 361 only in 26.5% of subjects. MA-LRTI was reported in 5 (7%) MEDI8897 recipients through 150 days after dosing. The one subject with an MA-LRTI caused by RSV had received a 10 mg dose of MEDI8897.

Conclusion. In healthy preterm infants, the safety profile of MEDI8897 was favorable. The extended $t_{½}$ of MEDI8897 with the corresponding increase in RSV neutralizing antibody levels was confirmed and supports protection from RSV disease during a typical 5-month season with a single 50 mg IM dose.

This study was sponsored by MedImmune.

Disclosures. **J. B. Domachowske**, Medimmune: Investigator, Research grant; Regeneron: Investigator, Research grant; Pfizer: Investigator, Research grant; Glaxo Smith Kline: Investigator, Research grant; Novavax: Investigator, Research grant; Janssen: Investigator, Research grant; **A. Khan**, MedImmune: Employee and Shareholder, Salary and stock; **M. T. Esser**, MedImmune: Employee and Shareholder, Salary and stock; **K. M. Jensen**, MedImmune: Employee and Shareholder, Salary and stock; **T. Takas**, MedImmune: Employee and Shareholder, Salary and stock; **T. Villafana**, MedImmune: Employee and Shareholder, Salary and stock; **F. Dubovsky**, MedImmune: Employee and Shareholder, Salary and stock; **M. P. Griffin**, MedImmune: Employee and Shareholder, Salary and stock

1002. Respiratory Syncytial Virus bronchiolitis: Impact of second-hand smoke exposure on immune profiles

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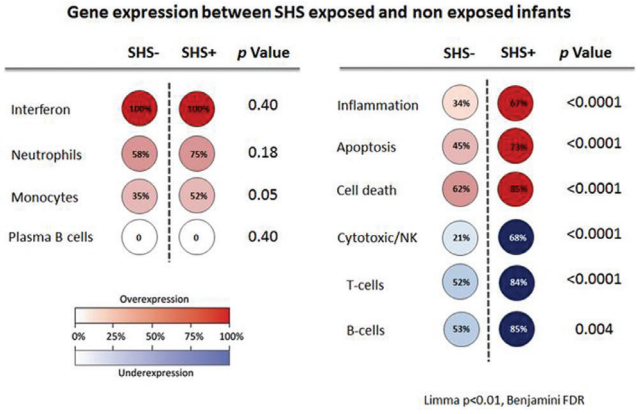
Session: 135. PIDS Featured Abstracts
Friday, October 6, 2017: 10:30 AM

Background. RSV is the leading cause of hospitalization for bronchiolitis in infants and young children worldwide. Second-hand smoke (SHS) exposure has been associated with increased morbidity in children with respiratory infections. The objectives of this study were to explore the association between SHS measured by hair nicotine and disease severity in infants with RSV infection, and to define its impact on the blood transcriptional immune profiles.

Methods. Single-center, prospective study of previously healthy infants presenting to the Emergency Department with RSV bronchiolitis with and without SHS exposure assessed by hair nicotine levels. Exclusion criteria included: prematurity; chronic medical conditions, and insufficient hair. Clinical outcomes were assessed using a clinical disease severity score (CDSS; ranging from 0 to 15) and care provided (hospitalization and intensive care). Blood samples from patients and healthy controls were obtained at enrollment for gene expression profiling, and differences in profiles stratified by SHS exposure.

Results. A total of 70 infants with RSV were enrolled (median age 2.7 months; 44 (62.8%) males; 44 (62.8%) white). Hair nicotine was detected in 45 (64.2%) infants with RSV while 25 RSV+ infants had undetectable hair nicotine levels. Demographic variables were not significantly different between SHS exposed and nonexposed infants. Median nicotine concentrations in infants with severe (CDSS >10) vs. mild RSV disease (CDSS < 5) were 5.3 and 2.1 ng/mg (P = 0.49). In addition, blood transcriptional profiles in RSV infants exposed to SHS vs. nonexposed, were characterized by significantly greater overexpression of genes related to inflammation, apoptosis and cell death, and greater suppression of T and B cell-related genes (Figure 1).

Conclusion. In otherwise healthy infants with RSV infection exposure to SHS was associated with greater inflammation and blunted T and B cell responses. Although not statistically significant, hair nicotine levels were higher in patients with more severe RSV bronchiolitis.



Disclosures. **O. Ramilo**, Abbvie: Board Member, Consulting fee; Regeneron: Board Member, Consulting fee; Janssen: Board Member and Investigator, Consulting fee and Research grant; NIH: Grant Investigator, Research grant; **A. Mejias**, Janssen: Investigator and Scientific Advisor, Consulting fee and Research support; Abbvie: Consultant and Scientific Advisor, Speaker honorarium; Novartis: CME lecture, Speaker honorarium; NIH: Investigator, Research grant

1684. Obesity Following Antiretroviral Therapy (ART) Initiation is Common and Influenced by Both Traditional and HIV-/ART-Specific Risk Factors

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Session: 188. HIV: Modern ART
Friday, October 6, 2017: 2:00 PM

Background. Weight gain commonly occurs among HIV-infected (HIV+) adults initiating modern ART regimens, and obesity is increasingly reported in this population. However, data regarding specific risk factors for obesity development after ART initiation are conflicting.

Methods. We retrospectively analyzed data from a cohort of HIV+ adults who initiated ART between January 1, 2000 and December 31, 2015 in Rio de Janeiro, Brazil. Body mass index (BMI) was assessed at ART initiation. Participants who were non-obese (BMI < 30 kg/m^2) at baseline and had ≥90 days of ART exposure were followed for development of obesity. Participants were censored at the time of obesity diagnosis or at end of follow-up (defined as death, loss to follow-up, end of study period or 2 years after their last weight measurement). Incidence rates were estimated using Poisson regression models and risk factor assessment was calculated using Cox regression models accounting for death and loss to follow-up as competing risks.

Results. Participants (n = 1,794) were 61.3% male, 48.3% white and had a median age of 36.3 years. At ART initiation, participants had a median BMI of 22.6 kg/m^2 and BMI category distribution was: underweight 14%, normal weight 56%, overweight 22% and obese 8%. Of the 1,567 non-obese participants followed after ART initiation, 76% gained weight, 44% increased their BMI category and 18% developed obesity. Median