Research

S912 • (PPV 84%), and may reflect differences in sample collection in the acute care setting. Clinical decision-making. Our results differ from those published by the manufacturer during times of high prevalence yields only modest results and is unlikely to aid in use. We pro- and retrospectively reviewed all patients with positive RSV RADT tests from July 1, 2017 through March 31, 2019. The test utilized was the QuickVue® RSV Test Kit (QUIDEL Corp, CA, USA), which detects the viral protein present in RSV. Of the tests performed, we chose patients who had definitive testing with either a direct fluorescent antibody (DFA) or a polymerase chain reaction (PCR). We then calculated the PPV as well as the FDR of the RSV RADT at our facility. Methods: During the study period there were 1128 RSV RADT tests performed, of which 232 had definitive testing with either DFA or PCR (Figures 1 and 2). We found the overall PPV during the study period was 63.3%. During the off-season 30 positive RSV RADT received definitive testing, of which 6 were positive, which yields a PPV of only 20%. In season, 202 RSV RADT received additional testing with 141 positive for RSV. The PPV was 69.8%. The FDR correlated with 36.7% throughout the entire studied period, 80% during the off-season and 30.3% during in-season. As expected, the PPV was higher during times of higher prevalence (Figure 3).

Conclusion: Based on our results, utilization of the RSV RADT during time of low prevalence yields a high false detection rate and should therefore be discouraged. The use during times of high prevalence yields only modest results and is unlikely to aid in clinical decision-making. Our results differ from those published by the manufacturer (PPV 84%), and may reflect differences in sample collection in the acute care setting.

2621. Influence of HIV Exposure Status on Carriage Rates and Density of Streptococcus Pneumoniae and Pneumocystis jiroveci in Zambian Children

Session: Saturday, October 5, 2019: 12:15 PM

Background: Low rates of mother to child HIV transmission in Zambia, translates into a high number of children who are HIV exposed but uninfected (HEU) who have increased mortality and morbidity when compared with children HIV unexposed and uninfected (HUU). We performed a secondary analysis on The Pneumonia Etiology Research in Child Health (PERCH), a case–control study focused on identifying the etiologies of pediatric pneumonia including two pathogens, Streptococcus pneumoniae and Pneumocystis jiroveci in Zambian children to evaluate if HIV exposure status influences carriage rates and density for these pathogens.

Methods: Children ages 1–59 months were enrolled as cases if they met the World Health Organization (WHO) definition of severe or very severe pneumonia. Controls did not have a diagnosis of pneumonia and were matched by age and HIV status to cases. Each case and control had a nasopharyngeal (NP) swab and an oropharyngeal (OP) swab specimen. A multiplex real-time polymerase chain reaction (PCR) assay was used to test the NP/OP specimens for S. pneumoniae and P. jiroveci. A density of log_{10}, copies/mL in microbiology confirmed cases compared with controls was used to define positive infection with S. pneumoniae and P. jiroveci.

Results: The highest S. pneumoniae carrier rates were seen in HIV unexposed controls and the lowest carrier rates seen in HIV-infected controls. HIV-infected children who were S. pneumoniae carriers and were classified as controls the highest S. pneumoniae density of all groups. Overall, the HIV-infected group had the highest S. pneumoniae density rates. There was minimal variation in the S. pneumoniae density of those in the HIV exposed and HIV unexposed. P. jiroveci was present only in 31% of HIV infected cases and 7% of the same group controls. HIV exposed cases had half the carrier rates of their counterparts in the HIV-infected group, but the P. jiroveci carriage rates were the same as the carriage rates in HIV-infected controls. The P. jiroveci carriage density in HIV-infected and HIV-exposed cases was similar.

Conclusion: HIV exposure status in children can be a predictor factor in S. pneumoniae and P. jiroveci carriage and density. The results of our analysis could potentially explain the high rates of pneumonia in children exposed to HIV but uninfected. Our findings open the door to more in-depth studies about the immunological status in children exposed to HIV but uninfected.

Table 3: Demographic study participants by case-control and HIV status.

Table 2: PCR-determined carriage rates and densities for S. pneumoniae and P. jiroveci by case-control and HIV status.