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Impact of Maternal HIV Infection on Cord Blood Passive Antibody Levels Against Protein and Polysaccharide Antigens in Exposed Versus Unexposed Uninfected Infants

Immunity to varicella and measles has not been compared in HIV seropositive and seronegative pregnant women and their infants. Antibody levels to varicella and measles were evaluated in 14 HIV seropositive and 34 seronegative pregnant women, 14 HIV exposed and 26 un-exposed cord bloods, and followed-up prospectively in 23 HIV exposed and unexposed infants around 3-7 months of age by ELISA (99 samples) and by EIA (13 samples) for measles and by immunofluorescence (IFA) for varicella. Correlates of immunity were defined as antibody levels measles (>1.09 OD ratio or EIA) and $>1:8$ IFA for varicella. Antibody levels were correlated with T cell counts in HIV sero-positive mothers. Mean (range) ages of women at time of serologic tests were 27 (18-40), and 25 (15-41) years for HIV and control groups, respectively. Antibody levels to measles were significantly ($P=0.04$) lower in cord bloods of HIV exposed infants compared to the controls. T cell counts were lower in HIV seropositive women non-immune ($268/\text{mm}^3$) to measles compared to those immune ($618/\text{mm}^3$), but insignificantly ($P=0.07$). Immunity to measles and varicella as recognized by antibody levels declined significantly in both HIV exposed and unexposed infants by 3-7 months of age.

Biography

Shahana Choudhury has a background in Pediatrics and Pediatric Infectious Diseases, including Board Certification and Recertification, as well as expertise in evaluating immunities to vaccine preventable infections in HIV-infected and HIV-exposed children. Her research in this area was initiated as a fellow at Mount Sinai Medical Center, New York, where she evaluated the immunogenicity to the hepatitis B vaccine in HIV-infected children. Subsequently, she was able to successfully develop and conduct an RC1 research project evaluating serotype specific antibodies to *S. pneumonia* in US-born versus hispanic pregnant women and cord blood samples of their infants. This resulted in a publication in the May-June 2012 issue of *Journal of Nepal Medical Association (JNMA)*.

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