Perinatal Case Fatality Rate Related to Congenital Zika Syndrome in Brazil: a Cross-Sectional Study

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protocols were standardized between sites and studies were centrally interpreted at one to two fMRIs and feUSs, depending upon GA at enrollment. The feMRI and feUSs and/or IgM/PRNT diagnosis of Zika infection in Barranquilla, Colombia (endemic) fetuses/newborns of pregnant women with clinical and/or lab confirmed (RT-PCR) Zika virus infection, microcephaly (MC), and/or Sensorineural hearing loss (SNHL) and neurodevelopment (ND) abnormalities were confirmed and 108 remain under investigation. The remaining 236 cases have been ruled out by presenting normal examinations or due to presenting microcephaly by noninfectious causes. Of the total confirmed cases, 26.7% (36/137) died after birth or during pregnancy. 15.78% (66/369) of confirmed deaths had Zika virus infection during latency and 63.6% (108/170) had a positive TORCH blood test. The six cases related to Zika were confirmed by RT-PCR and/or IgM/IgG antibodies against Zika. The remaining cases of deaths remain either under investigation or have been ruled out.

Conclusion. The study highlights a high rate of perinatal lethality (15.78%) in cases of Zika virus. Despite the growing number of Zika cases, the recent incidence and prevalence might be higher due to the underreporting and lack of resources for confirmatory diagnostic tests (laboratory and imaging). Due to the high rate of lethality and the ongoing uncontrolled Zika outbreak, this study predicts an increase in the infant mortality rate in Brazil and highlights the need for developing public health programs to control the Zika outbreak.

Disclosures. All authors: No reported disclosures.

945. Fetal and Postnatal Brain Imaging for the Detection of ZIKV Encephalopathy in the Fetus/Newborn

Igor Thigo Queiroz, MD, PhD1; Jessika Thais Da Silva Maia, MS2; Gleyson Rosa, RN, MD3; Tatyana Vidal Mendes, RN, D4; S. Jayne Alves Vidal, RN, MD5; Maria Goretti Lins, MD, PhD6; Marcelo Rodrigues Zacarim, MD, MS7; David Aronoff, MD, FIDSA8,9; A. Desiré Sabra Abad6, MD, MPH10; Max L. Nylander M. N. Menes Neto, MS11; Universidade Potiguara, Natal, Brazil; 1Universidade Potiguar, Natal – RN, Brazil; 2Harvard Medical School, Boston, Massachusetts; 3Secretaria Municipal de Saúde, Cajazeiras-PB, Cajazeiras-PB, Brazil; 4SESAP – Rio Grande do Norte, Natal, Brazil; 5Hospital Infantil Vando de Santo, Natal, Brazil; 6Vanderbilt University School of Medicine, Division of Infectious Diseases, Nashville, Tennessee; 7Pediatric Infectious Diseases, Stanford University, Stanford, California; 8Extension Center, University of California, Davis, Davis, California

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Background. Many studies have demonstrated a causal link between Zika virus (ZIKV) infection, microcephaly (MC), and other congenital abnormalities (CA). This study aimed to determine perinatal case fatality rate in cases of Congenital Zika Syndrome (CZS) in the Rio Grande do Norte State (RN), a Brazilian Northeast State highly impacted by the Zika virus outbreak.

Methods. A cross-sectional study was conducted using data obtained through the State Health Department (SHD) for cases of MCP and CA in Rio Grande do Norte from April 2015 to February 5, 2016. Definition of perinatal period: commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth.

Results. During the study period, there were 486 cases of MCP and other CA notifiable diseases; of whom, 92 were confirmed and 108 remain under investigation. The remaining 236 cases have been ruled out by presenting normal examinations or due to presenting microcephaly by noninfectious causes. Of the total confirmed cases, 26.7% (36/137) died after birth or during pregnancy. 15.78% (66/369) of confirmed deaths had Zika virus infection during latency and 63.6% (108/170) had a positive TORCH blood test. The six cases related to Zika were confirmed by RT-PCR and/or IgM/IgG antibodies against Zika. The remaining cases of deaths remain either under investigation or have been ruled out.

Conclusion. This study highlights a high rate of perinatal lethality (15.78%) in cases of CZS. Despite the growing number of CZS cases, the recent incidence and prevalence might be higher due to the underreporting and lack of resources for confirmatory diagnostic tests (laboratory and imaging). Due to the high rate of lethality and the ongoing uncontrolled Zika outbreak, this study predicts an increase in the infant mortality rate in Brazil and highlights the need for developing public health programs to control the ZIKV outbreak.

Disclosures. All authors: No reported disclosures.

946. Maternal Immunization with a Single-Cycle Herpes Simplex Virus (HSV) Candidate Vaccine, ΔgD-2, Protects Neonatal Mice from Lethal Viral Challenge

Carol Kuo, MD1; Clare Burn, MS2; William R Jacobs Jr., PhD3; Betsy C Herold, MD, FIDSA, FPIDS2,4; Department of Pediatrics, Albert Einstein College of Medicine, Bronx, New York; 2Department of Microbiology and Immunology, Albert Einstein College of Medicine, Bronx, New York

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Background. Perinatal HSV is associated with ~60% mortality if untreated and with substantial morbidity even with appropriate therapy. We recently engineered a mutant deleted in glycoprotein D (ΔgD-2) that induces high-titer antibodies (Abs) that are non-neutralizing but activate the Fc receptor (FcR) to elicit antibody-dependent cellular cytolysis (ADCC). Immunization with ΔgD-2 completely protects adult mice from HSV-1 and HSV-2 disease following vaginal, skin, intraocular, or intranal challenge and prevents the establishment of latency (Elife, 2014, 4, e1311, 2016). Thus we hypothesize that maternal immunization with ΔgD-2 and/or passive transfer of immune serum will protect neonates from HSV.

Methods. Four- to 6-week-old C57Bl/6 female mice were primed and boosted at 3-week intervals with ΔgD-2 or an equal volume of uninfected cell lysates. Two weeks post-boost, mice were mated and pups were challenged with a lethal dose of HSV-1 (Bx31.1) at day 7 of birth. To differentiate the contribution of transplacental vs. colostrum Abs, mothers were switched at birth. Alternatively, 7-day-old mice born to immunized mothers received a single dose of immune serum (400 μg total Ab) intraperitoneally at time of intranal challenge.

Results. Thirty-eight of 47 (81%) of the pups born to and nursed by ΔgD-2-immunized mothers survived, exhibited little or no signs of disease and were protected from HSV-1 infection as measured by HSV DNA by PCR in neuronal tissue. In contrast, 12/14 (86%) of pups born to control vaccinated and nursed mice developed neurological signs of disease and died (P < 0.0001, Fisher's exact test). Survival was associated with increased ADCk Abs in the serum of neonatal mice. In contrast, passive transfer of immune serum, which consistently protects adult mice from infection, did not protect neonates. If newborn mice born to immunized mice suckled with control mouse milk, was protected was partially abrogated (11/19, 58% survival), suggesting that both systemic and mucosal Abs are required for complete protection.

Conclusion. Maternal vaccination with ΔgD-2 provides significant protection against intranasal neonatal challenge but may require exposure to systemic and mucosal Abs.

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947. Blood Viral Load (VL) Not Clinically Meaningful in Symptomatic Congenital Cytomegalovirus (cCMV) Infection

C. Herold, MD1, MPH2, PhD3, MD, FIDSA, FPIDS4,5; Concetta Cytomegalovirus (cCMV) Infection Evaluation Center, University of California, Davis, CA; 2Department of Pediatrics, University of California, Davis, Sacramento; 3Division of Infectious Diseases, Nationwide Children's Hospital, Columbus, Ohio; 4Pediatrics, Carolina Medical Center, Charlotte, North Carolina; 5Joins Hopkins, Baltimore, Maryland; 6Pediatrics, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, Pennsylvania; 7University of Washington, Seattle; 8Children's Medical Center, New Hyde Park, New York; 9Cook Children's Medical Center, Fort Worth, Texas; 10Pediatrics, Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, Alabama; 11Pediatrics, University of Alabama at Birmingham, Birmingham, Alabama

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Background. Sensorineural hearing loss (SNHL) and neurodevelopmental (ND) outcomes are favorably impacted by antiviral therapy in infants with symptomatic cCMV disease. We correlated blood VL before and during therapy with clinical findings at presentation and follow-up in this population.

Methods. Post-hoc analysis of two clinical trials conducted by the CASG from 2002 to 2013 evaluating valganciclovir therapy. 120 subjects (73 treated x 6 weeks, 47