

improvement. Describing anchoring milestones and evaluating fellows in accordance to stage in fellowship (i.e. early first year fellow) can help standardize responses. Further exploration on improving the evaluation process is warranted.

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1139. Adherence to Zika virus-related Pediatric Follow-up Care in Puerto Rico

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Session: P-51. Maternal-child Infections

Background. Over three thousand children in Puerto Rico were potentially exposed to Zika virus infection during pregnancy during the 2016 Zika virus epidemic. This congenital exposure is an established risk factor for birth defects and neurodevelopmental abnormalities, which may appear after birth. Puerto Rico guidelines require consistent pediatric monitoring for early identification and intervention of children up to age five.

Methods. Our objective was to assess factors that influence caregiver adherence to Zika-related follow-up pediatric services in Puerto Rico. We conducted qualitative semi-structured focus groups and individual interviews with 57 individuals, including 35 caregivers (aged ≥18 years and a primary caregiver for a child with laboratory evidence of confirmed or possible Zika virus infection during pregnancy) and 22 healthcare providers or service coordinators. We explored participants' views on barriers to Zika-related pediatric services and suggestions for improving appointment attendance. Interviews were recorded, transcribed, and translated. We developed and applied a coding scheme based on barriers and facilitators from the Andersen Model of Health Care Utilization and Katz Model for Adolescent Vaccine Adherence (a multi-step process influenced by adolescent and caregiver factors). Data were analyzed using thematic analysis.

Results. Three themes influencing adherence to Zika-related pediatric follow-up care were consistently reported throughout the interviews and focus groups discussions: (1) logistics of getting child to appointments based on clinic location, availability and costs associated with transportation, and physical requirements to transport child or multiple children; (2) complexity of requirements for follow-up appointments; and (3) caregiver burden including emotional, social, and time.

Conclusion. Barriers to Zika-related pediatric follow-up care in Puerto Rico are complex and multi-level. Core intervention targets should include caregiver burden, health system navigation, and coaching caregivers in communication with pediatric providers. Use of a caregiver-delivered manualized intervention led by community health workers seems appropriate to achieve these goals.

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1140. Awareness of Cytomegalovirus (CMV) Among Postpartum Mothers: Education Needed!

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Session: P-51. Maternal-child Infections

Background. Congenital cytomegalovirus (cCMV) infection is the leading cause of non-genetic sensorineural hearing loss and affects approximately 0.5%-1% of all live births in the United States. Despite its substantial burden, maternal awareness of congenital CMV disease is limited. In addition, there is no information on CMV awareness among postpartum women who ultimately would consent for CMV newborn screening. Thus our objective of this study was to determine the proportion and characteristics of postpartum women who had knowledge of CMV in an academic medical center in Columbus, OH.

Methods. From May - December 2019, 276 postpartum women who delivered a newborn at the Ohio State University Wexner Medical Center, Columbus, OH were asked if they had prior knowledge of CMV. Eligible mothers had delivered an infant who was admitted to the Newborn Nursery, were ≥ 35 weeks' gestational age, and had no signs of congenital CMV infection. These mothers had consented for enrollment of their newborn into the University of Alabama's Collaborative Antiviral Study Group multicenter study on CMV screening (saliva) of asymptomatic infants. Pertinent demographic and clinical data were collected and subsequently managed using REDCap electronic data capture tools hosted at Nationwide Children's Hospital, Columbus, OH. Statistical analyses were performed using GraphPad Prism.

Results. 505 eligible infants were born during the study period and 276 (55%) of the mothers were asked about their awareness of CMV infection. Of the 276 mothers (62%, white; 24%, Black; 3%, Asian; 0.4%, Native Hawaiian or Pacific Islander; 3%, biracial; 8%, not known), 30 (10%) had prior knowledge of CMV. Mothers who were aware of CMV did not differ from mothers who did not know about CMV in primigravida status (12/30 [40%] vs. 84/246 [34%], P=.55) or age (median, IQR; 33 years [29-35] vs. 31 years [26-34], P=.11). All infants had a normal physical examination, and none had congenital CMV infection.

Conclusion. Among postpartum mothers who consented to saliva screening of their newborns for congenital CMV infection, only 10% were previously aware of CMV. Such a knowledge gap should be addressed to better inform both universal and targeted newborn CMV screening among postpartum mothers.

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1141. Composition of Placental Cultures and Correlation with Maternal and Infant Blood Cultures in Mothers with Suspected Chorioamnionitis

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Session: P-51. Maternal-child Infections

Background. Placental culture is often used in combination with placental pathology in pregnant women with suspected chorioamnionitis. While multiple studies have looked at the correlation of placental cultures with neonatal outcomes, few have looked at the composition of placental cultures in terms of the number of organisms and their identification. Our study aims to describe such characteristics of placental cultures and to compare organisms found in placental cultures with those in maternal and infant blood cultures.

Methods. We performed retrospective chart reviews on mothers and infants for whom a placental pathology and culture was sent at Loyola University Medical Center between January 2017 and December 2019. We separated the mothers based the results of their placental cultures and pathologies and on the number of organisms found in each culture. We then analyzed the identification of organisms of the positive cultures and compared these organisms with positive infant and maternal blood cultures.

Results. A total of 208 placental cultures out of 279 sent (73.84%) were positive. 63 (30.29%) positive cultures were monomicrobial, while 145 (69.71%) cultures were polymicrobial. The most prevalent organisms found in all placental cultures were coagulase negative staphylococcus (26.44%), Streptococcus anginosus (16.83%), Corynebacterium species (14.90%), Lactobacillus species (14.90%), and Gardnerella vaginalis (13.94%). A small fraction of positive placental cultures was associated with positive infant and maternal blood cultures (4.33% and 3.85%, respectively). When comparing the organisms in placental cultures with those in maternal and infant blood cultures, 100% and 71% (respectively) of cases with both positive blood and placental cultures had shared organisms.

Distribution of most common organisms found in monomicrobial and polymicrobial placental cultures.

Monomicrobial Cultures			Polymicrobial Cultures			
Organism	Frequency of Organism	Percent Frequency of Monomicrobial Cultures	Organism	Frequency of Organism	Percent Frequency of Total Organisms	Percent of Polymicrobial Cultures Containing Organism
Escherichia coli	7	11.11%	Staphylococcus species (coagulase negative)	50	10.10%	34.48%
Gardnerella vaginalis	6	9.52%	Streptococcus anginosus	34	6.87%	23.45%
Cutibacterium (Propionibacterium) acnes	5	7.94%	Corynebacterium species	31	6.26%	21.38%
Staphylococcus species (coagulase negative)	5	7.94%	Lactobacillus species	28	5.66%	19.31%
Finnegidius (Peptostreptococcus) magnus	4	6.35%	Gardnerella vaginalis	23	4.65%	15.88%
Bacteroides fragilis	3	4.76%	Bacteroides fragilis	22	4.44%	15.17%
Enterococcus species	3	4.76%	Prevotella bivia (Bacteroides bivius)	20	4.04%	13.79%
Lactobacillus species	3	4.76%	Finnegidius (Peptostreptococcus) magnus	18	3.64%	12.41%
Streptococcus agalactiae (Group B)	3	4.76%	Escherichia coli	17	3.43%	11.72%
Streptococcus viridans group	3	4.76%	Enterococcus faecalis	14	2.83%	9.66%

Distribution of placental cultures based on number of organisms.

Number of organisms	Number of cultures	Percent of total positive cultures
Single	63	30.29%
Multiple (>1)	145	69.71%
2	48	30.29%
3	34	23.08%
4	28	16.35%
5	21	13.46%
6	11	10.10%
7	1	5.29%
8	2	0.48%

Correlation of placental cultures with infant and maternal blood cultures.

Type of blood culture	Number of positive blood cultures	Number of positive blood cultures with positive placental culture	Number of cases with both positive blood and placental cultures with corresponding organisms	Number of placental cultures that identified additional organisms not found in blood cultures
Infant	9 (4.33%)	7 (78%)	5 (71%)	5 (100%)
Maternal	8 (3.85%)	6 (75%)	6 (100%)	4 (66%)

Conclusion. The data collected from this study helps provide a biological profile of organisms found in placental culture for patients with suspected chorioamnionitis.

Additionally, the data suggests that the organisms found in these cultures are often consistent with those found in maternal and infant blood cultures. The overall incidence of positive infant and maternal blood cultures is low as compared to positive placental cultures.

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1142. Increased Odds of Psychiatric Illness Among Mothers of Infants with Congenital Syphilis

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Session: P-51. Maternal-child Infections

Background. Syphilis can be transmitted mother to child during pregnancy leading to multisystem birth defects if untreated. In Illinois, screening is mandated for pregnant women at first and third trimesters. The University of Illinois Hospital (UIH) serves a vulnerable patient population with a high syphilis prevalence. An understanding of risk factors associated with maternal syphilis infection can guide prevention of congenital syphilis (CS) with early prenatal diagnosis and treatment. The aim of this retrospective case control study is to describe maternal risk factors associated with CS in a clinical setting.

Methods. Using a database used for health department reporting from 2014-2018 at UIH, 106 maternal syphilis diagnoses were identified. Medical records were reviewed for CS infant diagnosis, sociodemographic information, medical history, and potential risk factors, including multiple sex partners, HIV status, drug use, history of incarceration or sex work, and having sex with men who have sex with men (MSM). Cases were matched with controls of pregnant women with syphilis testing that was not indicative of infection.

Results. Of the maternal syphilis diagnoses identified, there were 8 cases in which CS was possible or highly probable, 68 in which CS was less likely or unlikely, and 30 that were lost to follow up. Of the possible and probable infants' mothers, 38% had a psychiatric illness (6.80 OR, 95% CI 1.06-43.48) and 25% were homeless (12.00 OR, 95% CI 0.94-153.89). Late or scant prenatal care was seen in 75% (4.15 OR, 95% CI 0.72-23.95) and 75% had inadequate syphilis treatment. None were HIV positive or reported incarceration, intravenous drug use, sex work, or having sex with MSM.

Conclusion. Among infants with probable or possible CS, there was a 6.80 increased odds of maternal psychiatric illness compared to those born to mothers not diagnosed with syphilis, which may have complicated prenatal care and delayed diagnosis or treatment. Psychiatric illness outnumbered several other known risk factors; however, these may be less often discussed during clinical encounters. Psychiatric illness history may be a risk factor and means to identify women in the clinical setting who need close follow up and outreach after a prenatal syphilis diagnosis to prevent or mitigate congenital transmission.

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1143. Late-Onset Hearing Loss and Antiviral Therapy for Congenital Cytomegalovirus Infection

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Session: P-51. Maternal-child Infections

Background. Congenital cytomegalovirus (CMV) is the leading non-genetic cause of sensorineural hearing loss (SNHL) in children. While SNHL is often present at birth, as many as 25% of congenital CMV-infected infants may develop late-onset hearing loss. Antiviral therapy improves hearing outcomes, but its effect on the occurrence of late-onset SNHL is not fully known. Thus, our objective was to describe the prevalence of late-onset SNHL among congenital CMV-infected children treated with antiviral therapy in the first month of age.

Methods. From 2013 to present, infants with congenital CMV infection referred to Nationwide Children's Hospital's (NCH) NEO-ID Clinic, Columbus, OH underwent complete evaluation including hearing testing. Pertinent demographic, clinical, laboratory, and radiographic data were obtained and managed using REDCap electronic data capture tools. Infants who passed the newborn hearing screen and subsequently developed late-onset SNHL were identified and compared with respect to receipt of antiviral therapy in the neonatal period. Statistical analyses were performed using GraphPad Prism for macOS version 8.3.0.

Results. During the 6-year study period, 99 infants had congenital CMV infection and 69 (70%) of them passed the newborn hearing screen. 46 (46%) neonates received antiviral therapy (1, ganciclovir; 38, valganciclovir; 7, both) for clinically apparent congenital CMV infection. One (2%) child developed late-onset SNHL. This infant was born at 37 weeks' gestation (birth weight, 2525 g) with microcephaly (head circumference, 31 cm) and cerebral calcifications and was diagnosed with congenital CMV infection at 8 days of age. Treatment with valganciclovir was initiated at 9 days of age, and he developed mild unilateral SNHL at 1 month of age while on treatment and subsequently right severe-profound SNHL and left mild-moderate SNHL.

In comparison, among 23 infants with clinically inapparent disease who passed the newborn hearing screen and did not receive antiviral therapy, 5 (22%) subsequently developed SNHL (p=0.014).

Conclusion. Infants who received antiviral therapy for clinically apparent congenital CMV infection had significantly less late-onset SNHL than untreated infants, thus supporting a hearing protective effect of antiviral treatment.

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1144. Prevention of Mother-to-Child Transmission of Hepatitis B at UNC Hospitals

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Session: P-51. Maternal-child Infections

Background. Hepatitis B virus (HBV) contributes to liver-related morbidity and mortality on a global scale. In mothers with active hepatitis B, up to 100% of mother-to-child-transmission (MTCT) is preventable. Guidelines from the American Association for the Study of Liver Diseases (AASLD) recommend that HBV vaccination and hepatitis B immunoglobulin (HBIG) be given to HBV-exposed infants in a timely manner to prevent up to 90% of MTCT. Additionally, AASLD guidelines recommend that women with high-risk HBV (those with viral load >200,000 IU/mL and/or HBV e antigen [HBeAg] positivity) receive tenofovir prophylaxis to further prevent MTCT. In this chart review, we compared UNC Hospital's prevention of MTCT measures to standing AASLD guidelines.

Methods. This retrospective chart review included data from all HBV-positive mothers giving birth at UNC Hospitals from April 1, 2014 through December 31, 2019. We investigated the HBV status of mothers, time to neonatal HBV vaccination, time to HBIG administration, maternal HBV viral load, maternal HBeAg status, and whether tenofovir was provided for high-risk mothers. Data was then compared to AASLD guidelines distributed in January 2017.

Results. We identified 99 HBV-positive pregnant women over a five-year period. The rate of timely administration of HBIG was 99%. The rate of timely hepatitis B vaccination was 97%. The single neonate who did not receive the HBV vaccination within 12 hours was born to a mother whose HBV testing was initially positive but confirmatory testing was negative. Most (65%) women had documented HBV viral load and 75% of women had HBeAg studies. Nine women were identified as high-risk, with only one not receiving tenofovir.

Conclusion. UNC Hospitals were compliant with AASLD guidelines regarding timely neonatal vaccination, providing nearly 99% of neonates with timely HBIG and all but three neonates with timely HBV vaccine. The majority of high-risk women identified received tenofovir prophylaxis. However, there is room for improvement in laboratory evaluation to identify other high-risk women. While initial data is reassuring, quality improvement measures include improving testing rate to determine risk status for HBV-positive mothers and further investigation of appropriate follow-up testing for both mothers and children.

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1145. The Role of Maternal Vaccination on Healthcare Visits for Acute Respiratory Infections in HIV-Exposed but Uninfected (HEU) Infants

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Session: P-51. Maternal-child Infections

Background. HEU infants remain at higher risk for hospitalization and severe infection from common childhood illnesses. Maternal immunization during pregnancy with influenza and tetanus, diphtheria, pertussis (Tdap) vaccine is recommended and effective at protecting infants from vaccine-preventable infections.

Methods. We conducted a retrospective cohort study of pregnant women living with HIV (WLWH) who delivered and received prenatal care at Grady Memorial Hospital (GMH) between November 1, 2012 and June 30, 2018. Vaccination history was ascertained through the Georgia Registry of Immunization Transactions and Services or by review of electronic medical record. Mother and infant charts were reviewed. We defined acute respiratory infection (ARI) as infants who presented with symptoms or an admitting diagnosis suggestive of an ARI. Relative risks (RR) of identified care visits (clinic, ED/urgent care, hospitalization) in the 6 months post-partum between WLWH with varying vaccinations were compared with 95% confidence intervals.

Results. 236 WLWH who delivered at GMH were identified (Table 1). Of those, 66 (28%) received only influenza, 32 (14%) received only Tdap vaccine, 64 (27%) received both and 74 (31%) did not receive any vaccines during pregnancy. There was a trend towards decreased risk of a clinic visit, emergency department/urgent care visit, or any healthcare-associated visit in the first 6 months of life for an ARI in infants born to mothers who received any vaccine during pregnancy versus none although not reaching statistical significance (Table 2). There was a trend towards decreased risk of hospitalization for an ARI in the first six months of life in infants born to mothers who received both influenza and Tdap vaccines during pregnancy versus unvaccinated (RR 0.55, 95%CI: 0.14-2.22). Infants born to mothers vaccinated tended to have higher gestational age than those that did not (Table 3).