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Background. Congenital cytomegalovirus (cCMV) infection is the major cause of sensorineural hearing loss and the most frequent viral origin of neurodevelopmental impairment. The aim of this study was to evaluate incidence and characteristics of symptomatic cCMV infection in neonates in Korea with high maternal CMV seroprevalence up to 95%.

Methods. From January 2001 to February 2015, all neonates born from 7 university hospitals were included. Symptomatic cCMV infection was diagnosed in neonates within 14 days after birth. A retrospective chart review was performed.

Results. For 15 years, a total of 81,229 neonates were born in the 7 centers. Forty-nine neonates were identified as symptomatic cCMV and estimated incidence was 0.06% (49/81,229). The median age at CMV detection was postnatal age 1 day (range, 0–12). Small for Gestational age (47%, 23/49) was the most frequent symptom at diagnosis followed by jaundice (16%, 8/49), petechiae (14%, 7/49), and microcephaly (12%, 6/49). Thrombocytopenia (47%, 23/49) was observed in the initial laboratory evaluation. Among 69% (34/49) of the patients with neuroimaging abnormalities, ventriculomegaly (37%, 18/49) and periventricular white matter injury (18%, 9/49) were most common. Twenty-one patients (43%) received ganciclovir or valganciclovir treatment (median 41 days; range, 2–188 days). Hearing function evaluation was performed in forty-one patients (84%, 41/49). Among them, 34% (14/41) had abnormality in the first hearing examination (median 21.5 days; range, 0–239 days). Four patients eventually received cochlear implantations. Retinitis was shown only in 4% (2/49). Overall mortality was 8% (4/49) within 30 days after birth.

Conclusion. This study would provide the baseline information for epidemiology of symptomatic cCMV in Korean newborns. A prospective study in larger population is needed to estimate the true incidence of cCMV infection among Korean newborns and measurement of disease burden of cCMV disease in Korea is warranted.

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2325. Head Ultrasound or MRI? The Role of Neuroimaging in the Assessment of Symptomatic and Asymptomatic Infants with Congenital *CMV* Infection

Mina Smiljkovic, MD[1]; Christian Renaud, MD, MSc, FRCPC[2]; Bruce Tapiero, MD[3]; Valerie Lamarre, MD, FRCPC[4] and Fatima Kakkar, MD, MPH[5]; [1]Pediatrics, CHU Sainte-Justine, Université de Montréal, Montréal, QC, Canada, [2]Microbiology and Infectious Diseases, CHU Sainte-Justine, Université de Montréal, Montréal, QC, Canada, [3]Department of Pediatrics, Division of Infectious Diseases, CHU Sainte-Justine – University of Montreal, Montreal, QC, Canada, [4]Infectious Diseases, CHU Sainte-Justine, Université de Montréal, Montreal, QC, Canada, [5]Infectious Diseases, CHU Sainte-Justine, Université de Montréal, Montréal, QC, Canada

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Background. Despite interest in universal screening for congenital CMV infection (cCMV), there is little consensus on the management of asymptomatic newborns, and on the role or type of neuroimaging to be performed in infected infants. The objective of this study was to assess the concordance between head ultrasound (US) and magnetic resonance imaging (MRI) in identifying neurological abnormalities in infants with cCMV infection.

Methods. Retrospective review of infants with cCMV infection, referred to the *Centre Maternel Infantile d'Infectiologie Congenitale* at Sainte-Justine Hospital Center in Montreal, between 2008 and 2016. This was a secondary analysis of a previous study and included only patients who underwent baseline CMV qPCR and had neuroimaging records available.

Results. Of 46 cases of cCMV infection, 10 were categorized as clinically asymptomatic, and were identified following maternal seroconversion during pregnancy (8) or during targeted screening of HIV exposed newborns (2). Twenty-eight patients had US followed by MRI, 4 underwent US followed by CT (3) or CT and MRI(1), and 11 had only 1 imaging modality (US, CT, or MRI). Among cases with sequential US and MRI, US was performed at a mean of 13 days (SD ±19) and MRI at a mean of 70 days of age (SD ±164). In 20/28 cases, US and MRI were concordant (9 abnormal, 11 normal). In 4 cases, US was normal and MRI later found to be abnormal; however in these 4 cases patients were clinically symptomatic and the initial imaging findings did not influence the decision to treat. In 4 cases, US was abnormal and subsequent MRI found to be normal; in 2 of these cases, patients were clinically symptomatic and the imaging findings did not influence the decision to treat. However, in 2 cases, the patients were clinically asymptomatic and categorized as symptomatic for treatment based only on the abnormal US findings.

Conclusion. In this study, there was a discordance between MRI and US findings in 29% of infants with cCMV infection. While the addition of MRI to baseline head ultrasound did not influence the decision to treat in clinically symptomatic infants, the addition of MRI for infants with abnormal head US who are clinically asymptomatic could help refine treatment decisions in these cases.

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2326. "Targeted" Screening for Cytomegalovirus (CMV)-Related Hearing Loss: It's Time for Universal CMV Screening in the NICU!

Alexandra Medoro, MD[1]; Prashant Malhotra, MD, FAAP[2]; Masako Shimamura, MD[3]; Gina Hounam, PhD[4]; Ursula Findlen, PhD[4]; Phillip Wozniak, BA[5]; Nicholas Foor, BS[6]; Oliver Adunka, MD, FACS[2] and Pablo J. Sanchez, MD, FIDSA, FPIDS[7]; [1]Pediatrics, Nationwide Children's Hospital - The Ohio State University College of Medicine, Columbus, Ohio, [2]Otolaryngology, Nationwide Children's Hospital, Columbus, Ohio, [3]Center for Vaccines and Immunity, The Research Institute at Nationwide Children's Hospital, Columbus, Ohio, [4]Audiology, Nationwide Children's Hospital, Columbus, Ohio, [5]Center for Perinatal Research, Nationwide Children's Hospital, Columbus, Ohio, [6]Neonatology, Nationwide Children's Hospital, Columbus, Ohio, [7]Pediatrics, Divisions of Pediatric Infectious Diseases and Neonatology, Nationwide Children's Hospital - Ohio State University College of Medicine, Columbus, Ohio

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Background. Congenital CMV infection is the leading cause of non-genetic sensorineural hearing loss in infancy. Antiviral therapy has been shown to improve hearing outcomes, and thus "targeted" CMV screening for newborns who do not pass the hearing screen has been recommended. Diagnosis of congenital CMV infection requires that the infant be tested for CMV in the first 3 weeks of age. Our objective was to determine when infants in the neonatal intensive care unit (NICU) have their first hearing screen performed and thus inform the practice of targeted screening for determination of CMV-related hearing loss.

Methods. Retrospective review of the electronic health records of all infants admitted to the Level 4 outborn NICU at Nationwide Children's Hospital, Columbus, OH from August 2016 to May 2017. Demographic and clinical data were obtained, and the age that the first hearing screen was performed was assessed.

Results. During the 10 month study period, 362 infants were admitted to the NICU and had a first hearing screen performed. The majority of neonates (204, 56%) had a first hearing screen performed in the first 3 weeks of age. However, 158 (44%; median birth weight [IQR], 1072 g [747–1766]; median gestational age [IQR], 28 weeks [25–32]) infants received the first hearing screen at >3 weeks of age when a positive CMV PCR or culture cannot distinguish congenital infection from intrapartum/postnatal acquisition of CMV. Of the 158 infants, 20 (13%) did not pass the first hearing screen (13, unilateral; 7, bilateral), and subsequently, 9 of them did pass a second hearing screen. However, 11 of the 20 infants did not pass a second hearing screen and had urine CMV PCR testing, and 1 (9%) was positive. This latter infant's newborn dried blood spot CMV DNA PCR was negative so a diagnosis of congenital CMV infection was not possible.

Conclusion. Targeted screening in the NICU for CMV-related hearing loss is problematic as a substantial number of infants do not have a hearing screen performed until after 21 days of age, thus representing a missed opportunity for diagnosis of congenital CMV infection and institution of antiviral therapy if indicated. Our findings support universal CMV screening of neonates on admission to the NICU.

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2327. Monitoring Of Cytomegalovirus Infection In Non-Transplant Pediatric Leukemia During Chemotherapy

Nonthapan Phasuk, MD[1,2]; Nopporn Apiwattanakul, MD, PhD[1]; Chonnamet Techaseansiri, MD[1] and Usanarat Anurathapan, MD[1]; [1]Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, [2]School of Medicine, Walailak University, Nakhon Si Thammarat, Thailand

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Background. Cytomegalovirus (CMV) infection is a significant cause of morbidity and mortality in post-transplant setting, however, it has been increasingly recognized in non-transplant pediatric leukemia. We postulate that CMV reactivation may occur during chemotherapy, without any intervention, finally it can progress to CMV end organ diseases. This study was aimed to assess the prevalence and associated factors of CMV infection in pediatric leukemic patients.

Methods. A cross-sectional study involving 50 pediatric leukemic patients receiving chemotherapy at Ramathibodi Hospital, Bangkok, Thailand from December 2015 to December 2016 was performed. Plasma CMV viral load quantified by the Abbott RealTime CMV assay (Abbott Molecular Inc., Des Plaines, IL, USA) was monitored in different phases of chemotherapy; post-induction, post-consolidation, post-intensification, and maintenance.

Results. Of 50 patients enrolled, 141 blood tests were evaluated. The overall prevalence of CMV DNAemia (≥ 31.2 IU/ml) and high-level CMV DNAemia (≥ 1,500 IU/ml) were 52.0% (26 of 50) and 16.0% (8 of 50), respectively. All patients with high-level CMV DNAemia were in maintenance phase of chemotherapy. One patient had CMV retinitis, while the rest had no end organ diseases. Lymphocyte count increase was significantly associated with protection from high-level CMV DNAemia, odds