Background: Adverse fetal outcomes and infant birth defects may develop following Zika virus (ZIKV) infection during pregnancy, especially if this occurs in the first trimester. The aim of this study was to assess the relationship between plasma ZIKV load at the time of acute symptoms and (1) the rate and severity of birth defects in neonates born to mothers who had presented with ZIKV infection during pregnancy, and (2) clinical severity of maternal ZIKV infection.

Methods: Within a cohort of pregnant women living in the French territories in the Americas and exposed to ZIKV during the 2016 outbreak, we analyzed the data of women who developed a symptomatic infection confirmed by a positive plasma ZIKV RT–PCR, using the RealStar Zika virus RT–PCR Kit (Altona Diagnostics, Hamburg, Germany). Plasma ZIKV load quantification was based on the number of cycle times (CT) at which ZIKV RNA was detected (lower CT indicating a higher viral load). Variables indicating clinical severity of infection included the number of symptoms experienced and the severity of rash. Birth defects possibly linked to ZIKV infection were defined as microcephaly, brain imaging abnormalities, and central nervous system dysfunction. A logistic regression analysis, with variable logistic regression and multivariable linear regression, was used to identify clinical correlates with CT value.

Results: Of the 277 live-born neonates who were born to mothers who met the selection criteria (182 women with positive IgM, 94% had abnormalities possibly linked to ZIKV infection). The median CT of ZIKV RT–PCR CT values were similar, with 31.4 (29.3–33.2) and 31.8 (30.0–33.0), in women delivering normal neonates and those delivering neonates with defects, respectively (OR: 1.04, 95% CI: 0.90–1.21, P = 0.625). Plasma ZIKV load was lower with every day since first symptom onset, and higher with each additional symptom experienced, as indicated by changes in CT of 0.3 (95% CI: 0.2–0.5, P = 0.001) and –0.3 (95% CI: –0.5–0.1, P = 0.002) for each unit, respectively.

Conclusion: No relationship was observed between plasma ZIKV load and abnormal pregnancy outcomes but higher plasma ZIKV load was associated with a more recent and severe maternal ZIKV infection.

Disclosures. All authors: No reported disclosures.

2804. Systematic Review of the Role of Prenatal Ultrasound and Aminioinfection in the Diagnosis and Evaluation of Congenital Zika Syndrome

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Background: To inform recommendations for optimal screening for fetal outcomes of Zika virus infection during pregnancy, we examined the relationship between pre- natal diagnostics (ultrasound examination and amniotic fluid ZIKV virus testing) and postnatal congenital ZIKV syndrome (CZS) abnormalities.

Methods: Systematic searches were performed in 27 medical and public health databases from inception to March 21, 2018 for articles with the keywords: “Zika,” “pre-natal,” “ultrasound,” and “amnioncensis.” A total of 2,281 unique records were identified. 364 records were duplicates and 2,245 were excluded. Only 36 records were assessed for quality. 11 were excluded for data extraction. 25 studies were included in the review.

Results: There were 155 fetuses with CZS findings on prenatal ultrasound examination (53.3%); among them, postnatal CZS abnormalities were reported for 114 (73.5%). High proportions of microcephaly (72.4%), cerebral atrophy (85.7%), and ventriculomegaly (80.6%) were confirmed at pregnancy completion. In addition, 20.6% of the 136 fetuses without any CZS findings on prenatal ultrasound had CZS abnormalities identified at pregnancy completion. Structural CZS abnormalities were identified for 14% of whether detected by ultrasound pregnancy completion in dyads with and without ZIKV RNA detected in one or more amniotic fluid specimens (53.8% and 38.3%). In 6 pregnancies, Zika virus RNA was detected in amniotic fluid, but no Zika virus RNA was detected in a subsequent amniocentesis specimen.

Conclusion: Prenatal ultrasound findings associated with Zika virus infection may vary with factors such as timing of infection, timing of ultrasound, technical expertise, and severity of abnormalities. Detection of Zika virus RNA in amniotic fluid did not predict the risk for CZS abnormalities in this review, and de novo development of ZIKV RNA from amniotic fluid is possible after maternal infection. The decision to perform diagnostic testing for Zika remains a shared decision between patients and clinicians, and more data are needed to define clinical predictors that will inform these decisions.

Disclosures. All authors: No reported disclosures.