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Intrauterine vertical transmissibility of SARS-CoV-2: the evidence is evolving



We thank Drs Jain and Kanchan for their interest in our report entitled “Detection of severe acute respiratory syndrome coronavirus 2 in placental and fetal membrane samples.”¹ We would like to highlight that despite the presence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the placenta, none of the neonates in our cohort had a positive test result for SARS-CoV-2 in the first 5 days of life, nor did they demonstrate symptoms suggestive of coronavirus disease 2019 after birth. The focus of our report was therefore to demonstrate the possibility of intrapartum viral exposure and not to demonstrate vertical transmission.

Our study reported the presence of SARS-CoV-2 RNA in placental or membrane samples in the early stages of the pandemic, with all samples collected before April 20, 2020. At the time of sample collection, technologies such as those allowing determination of the viral RNA load in maternal serum and detection of neonatal immunoglobulin M (IgM) antibodies were not readily available at our center. Nonetheless, owing to the absence of any suspected cases of vertical transmission, measuring neonatal antibody status and maternal viral load in our study would not have provided additional information that could predict the risk of vertical transmission.

Despite this, our evaluation and understanding of vertical transmission of SARS-CoV-2 have evolved over time, and we agree that the use of these adjunct tests is valuable to generate evidence suggestive of vertical transmission. Mother to fetus transplacental transmission of SARS-CoV-2 has now been demonstrated with the use of a wide variety of methods such as measuring maternal, placental, and neonatal RNA viral loads; conducting placental immunohistochemical analysis; and measuring neonatal IgM levels in blood.^{2,3} However, the extent and clinical significance of these vertical infections remain unclear, and we look forward to future studies investigating this area. ■

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