



Vertical Transmission of COVID-19 Infection in a Tertiary Hospital in India - A Prospective Study

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To the Editor: The incidence of vertical transmission of SARS-CoV infection has been reported as 0.4 to 11.9% [1, 2]. This variation is due to the heterogeneity in the definition of vertical transmission used in these studies, heterogeneity in the samples procured for investigation, and failure to collect the samples from the neonate immediately after birth, thus increasing the risk of environmental contamination [3].

The present study was planned to address the above lacunae. COVID-19-positive mothers (infected within 14 d before delivery, n = 54) and their neonates (n = 57) were enrolled from December 2020 through June 2021. Blumberg et al. criteria (either positive RT-PCR report on day one and positive RT-PCR on day two or positive antibody result) were used to define vertical transmission [4]. Neonates with positive RT-PCR only on day one were labeled as having superficial infection, while those with RT-PCR positive on day two were considered as having horizontal transmission. Cord blood and nasopharyngeal swabs for RT-PCR on days one and two and a blood sample on day seven were collected for COVID IgG and IgM titers in neonates. The clinical profile of these mother-newborn dyads, including exclusive

breastfeeding rates and incidence of secondary infection, was collected.

The mean (SD) gestational age and birthweight was 36 (2) wk and 2573 (610) g, respectively. All the nasopharyngeal and blood samples tested negative for COVID-19. IgG antibody was positive in 24/53 (45%; 95% CI: 32% to 59%), but none of the neonates had positive IgM antibodies indicating passive antibody transfer from the mother. Most (n = 45; 79%; 95% CI: 68.4 to 89.5) neonates were asymptomatic. Only 36 mothers (53%) exclusively or predominantly breastfed their infants at four weeks.

We did not find vertical transmission of COVID-19 infection in this small cohort of neonates. The small sample size precludes us from making any firm conclusions.

Declarations

Conflict of Interest None.

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