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Research Letter

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RESEARCH LETTER

Vertical Transmission of SARS-CoV-2 from an Asymptomatic Pregnant Woman in India

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ABSTRACT

Severe acute respiratory syndrome coronavirus 2 (SARS CoV-2) is a highly infectious disease with many possible routes of transmission. Vertical transmission of SARS CoV-2 is still controversial. We report a case of vertical transmission of SARS CoV-2 from an asymptomatic pregnant woman to her newborn baby who had completely asymptomatic course in India.

KEYWORDS: COVID-19 infected mothers, India, newborns, vertical transmission

Severe acute respiratory syndrome coronavirus 2 (SARS CoV-2) is a highly infectious disease with many possible routes of transmission [1]. As the number of infection increases rapidly around the world, the number of pregnant mothers at risk of becoming infected is on the rise. There is still uncertainty on whether SARS CoV-2 can be transmitted vertically. We report a case of vertical transmission of SARS-CoV-2 infection in a neonate, who was delivered at our institute in North India. SARS-CoV-2 infection was diagnosed in nasopharyngeal swab of the neonate at age of 24 h. This case is one of the rarest evidence of vertical transmission of coronavirus disease-2019 (COVID-19) and describes clinical course of SARS-CoV-2 positive newborn born to pregnant women with COVID-19 infection.

An apparently asymptomatic lady of 25 years came to our centre for the management of COVID-19 pregnancy from a government peripheral hospital. She had uneventful antenatal period with regular follow-up. She was diagnosed of SARS-CoV-2 infection on 11 May 2020 before she presented to us. Source of contact was not known. No foetal concerns were there either during pregnancy or on her admission. Based on concerns about maternal infection, she was planned for caesarean section on 12 May 2020. She did not need any respiratory support at delivery.

She delivered a term live 38 weeks of baby girl weighing 3000 g. Baby has immediate cry at birth. Baby was separated immediately after birth and received routine care at a separate designated area for newborns away from operation theatre. Thorough cleaning of newborn was done. Her Apgar scores at 1, 5 and 10 min were 6, 8 and 8, respectively. Considering positive status of mother, baby was shifted to separate nursery designated to babies of COVID-19 pregnancies. She was clinically and haemodynamically stable and started on formula feeds. As per institutional protocol, she was tested for SARS-CoV-2 infection at age of 24 h [2]. Nasopharygeal swab was taken and sent for RT-PCR testing via kit that was recommended by ICMR/WHO for testing in India. Baby came out to be positive for SARS-CoV-2 infection.

Baby was kept under observation anticipating COVID-19 positivity. She had normal heart rate, no dyspnoea, maintaining SpO_2 saturation at room air and no edoema or rash. Routine investigations were within normal limits. Periodic newborn examinations were unremarkable at regular intervals. At follow-up both baby and mother were stable and asymptomatic. Baby turned RT-PCR test negative at 10 days of life.

Clinical manifestations of COVID-19 in pregnancy may range from completely asymptomatic course to severe acute respiratory distress syndrome needing mechanical ventilation. A recent systematic review suggested the possibility of severe maternal morbidity and perinatal mortality with COVID-19 infection in pregnancy [3]. This case highlights the vertical transmission from a completely asymptomatic pregnant woman to her baby who too had a completely asymptomatic clinical course.

A literature search for possible intrauterine transmission of COVID-19 from infected pregnant women to their foetuses revealed it to be a very rare phenomenon [4, 5]. Considering the fact that mother was completely asymptomatic before caesarean delivery, baby was never in contact with maternal vaginal secretions, intact membranes before birth, no skin-to-skin contact with mother and immediate separation of newborn following delivery it is highly likely that present case is vertically transmitted [6]. Major limitations of this observation are single case, lack of viral loads of mother and baby and lack of testing of amniotic fluid and placenta for RT-PCR testing.

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Guarantor: M.V.Singh will act as the guarantor of the article.

Consent: Consent of parent of the patient, for publication of material related to the clinical case in the JTP has been taken.

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