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SCIENTIFIC LETTER

SARS-COV-2 Infection in a Term Neonate Presenting with Respiratory Failure on Day 3 of Life

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To the Editor: Symptomatic Corona virus disease-2019 (COVID-19) disease due to Severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) infection in neonates is rare. Neonates may acquire infection either by vertical transmission from mother or by horizontal transmission. We report a case of an asymptomatic term neonate who suddenly deteriorated on day three and tested positive for SARS-COV-2 infection.

A 38 wk, 3 kg female neonate was delivered by elective cesarean section due to placenta previa. Mother was not tested for COVID-19 before delivery. On day 2 the baby developed jaundice (serum bilirubin 14.7 mg/dl). On day 3 she had sudden onset of paroxysms of cough after the feed and developed apnea. She was intubated immediately and after initial cardiopulmonary resuscitation, referred to our emergency on manual positive pressure ventilation. No symptoms were noticed by parents preceding this episode. There was no setting of early onset bacterial infection. At arrival she had severe bradycardia and no respiratory efforts. She could not be resuscitated and declared dead at 78 h of life. The post mortem nasopharyngeal swab for COVID-19 RT-PCR was positive and the ORF gene CT was 28 and RdRp gene CT was 21 (BGI kit). No X-ray or blood test or autopsy could be done. COVID-19 RT-PCR of parents, family contacts and health care workers tested negative.

The source of infection in our case could not be traced; however some visitors and asymptomatic health care workers may not have been tested. Vertical transmission cannot be ruled out as mother was tested 8 d postpartum and she might have turned negative by this time or false-negative. Horizontal transmission from unknown sources cannot be ruled out.

Systematic reviews and meta-analyses in neonates show very low rate of infection (2.7% to 3.6%) who are mostly asymptomatic [1–3]. Vertical transmission is rare and cannot be proven without testing of amniotic fluid, cord blood and placenta. Vertical transmission can occur during vaginal delivery however, cesarian section does not reduce infection [4].

A recent similar case reported from Italy presented with severe hypoxemia on day 5 without overt signs of respiratory distress. The mother tested positive on day 2 postpartum and may be horizontal transmission [5].

Our baby was born in a basic level health care facility and early hypoxemia could have been missed. The possibility of a false positive report is very unlikely as there were severe respiratory symptoms and RT-PCR is highly specific with very low false positivity rate of 3% [6].

Thus, to conclude, during this ongoing COVID-19 pandemic, any neonate presenting with unexplained respiratory symptoms should be tested for SARS-COV-2 infection.

Compliance with Ethical Standards

Conflict of Interest None.

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