

Asymptomatic carriage of severe acute respiratory syndrome coronavirus 2 by a pregnant woman and her newborn

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The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was initially identified in China in December 2019 as a causative agent of a severe upper respiratory tract infection, coronavirus disease 2019 (COVID-19).¹ Despite its worldwide dissemination, data on SARS-CoV-2 infections in pregnant individuals are exclusively obtained from limited medical cases.^{2,3} We describe a case of an asymptomatic pregnant woman and her newborn.

A 28-year-old pregnant woman reported to the regional second-level hospital on September 11, 2020 for the delivery. According to the recommendations of the Hospital Infection Control Committee, all patients admitted to the hospital are screened for SARS-CoV-2 in a sample from the upper respiratory tract. The patient did not manifest any symptoms of infection; however, the performed molecular test using the real-time reverse transcriptase–polymerase chain reaction yielded a positive result (FIGURE 1B).

The test was performed using a commercial MutaPLEX Coronavirus (SARS-COV-2) kit (Imundiagnostik AG, Bensheim, Germany) that detects 3 viral genes: SARS-CoV-2–specific S and RdRP genes, and E gene that is characteristic for both known SARS viruses. The next day (September 12), the patient was re-examined for the SARS-CoV-2 presence and the result was positive again (FIGURE 1A). Although the method used was qualitative, not quantitative, the result indicated that she demonstrated increasing viral load. We judged the level of viral genetic material based on the proportion of the threshold cycle (Ct) values for viral genes detected in samples collected on September 11 and 12 compared with the amount of isolated human DNA in the analyzed sample (FIGURE 1A and 1B). The patient's

partner was tested in another facility and he also tested positive and did not exhibit any symptoms of COVID-19 either (personal information). After 2 days of hospitalization, the patient, still without any symptoms of the infection, was discharged home where she stayed under quarantine according to the current epidemiological recommendations.⁴

The baby was delivered on September 11 via the vaginal route in the 40th week of pregnancy with 10 points on the Surgical Apgar Score. After birth, the newborn had skin-to-skin contact with its mother. Immediately after the detection of SARS-CoV-2 in the mother, her child was transferred to the neonate unit and stayed in an isolation facility. The neonate was tested for SARS-CoV-2 presence and the result was negative on the day of delivery (FIGURE 1C). Laboratory results showed increasing C-reactive protein levels with 9.1 mg/l and 33.8 mg/l (reference range <5 mg/l) on the day of birth (September 11) and the second day of life (September 12), respectively. However, the baby did not demonstrate any signs of respiratory tract infection. On the fifth day of life (September 15), the C-reactive protein level decreased to 4.6 mg/l. The same day, the SARS-CoV-2 test was performed and the result was positive for S/RdRP and E genes (FIGURE 1C). On the tenth day of life (September 21), the child was tested again and remained positive (FIGURE 1C). The next day, the infant was discharged home without any symptoms of the disease.

We recommend screening tests in all pregnant individuals for the presence of SARS-CoV-2 prior to delivery. We cannot elucidate the route of transmission; however, contact with the infected mother after the delivery is the most probable scenario.

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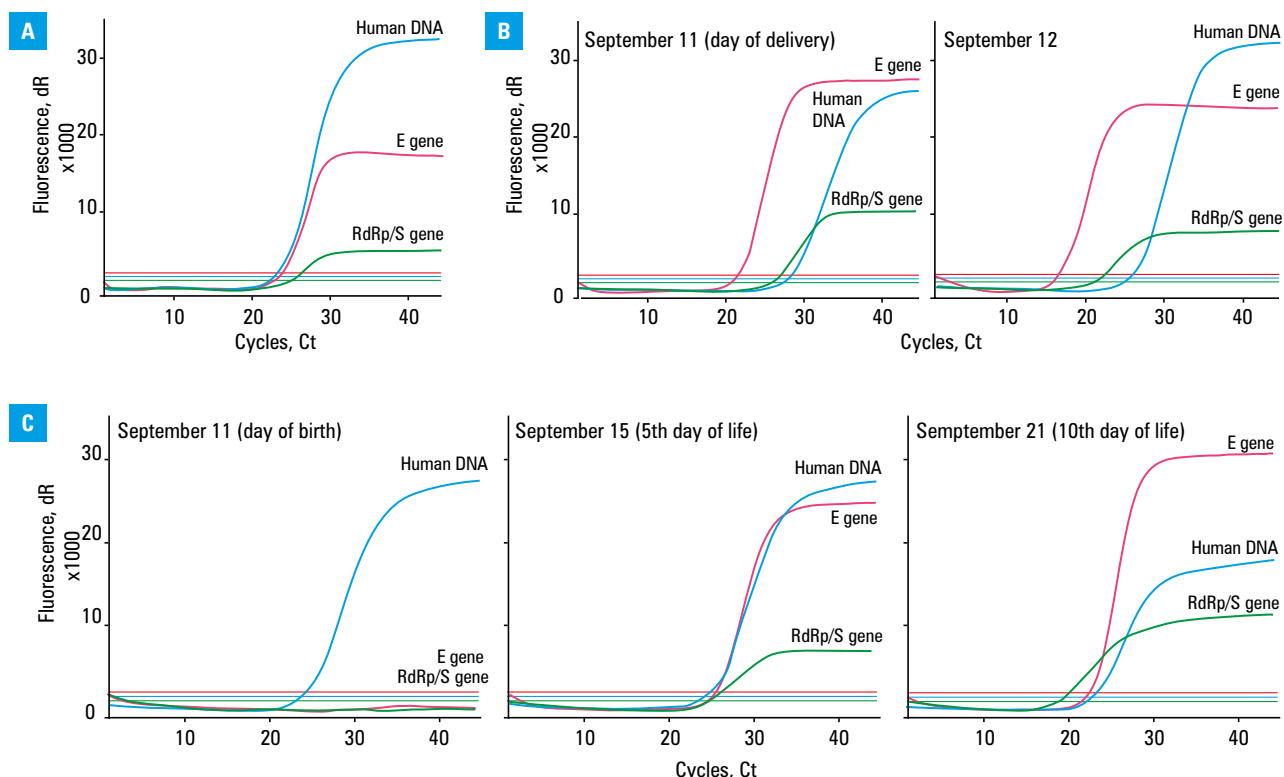


FIGURE 1 Detection of viral genes by real-time reverse transcriptase–polymerase chain reaction in the samples from the mother and newborn. The graphs show the amplification of the viral E gene (blue line), RdRp/S genes (green line), and the human β -actin gene (red line) in a positive control (A), samples taken from the mother on the day of delivery and the day after (B), and samples from the newborn on the day of delivery and on the fifth and tenth day of life (C).

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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