



Obstetrics and Gynaecology Cases - Reviews

CASE REPORT

A Case of a 33-Week Pregnant Woman with COVID-19 and Term Birth

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Abstract

In this case report, we present a pregnant woman diagnosed with COVID-19 at 33 weeks gestation and having a vaginal birth at term. The postpartum and neonatal courses were uncomplicated. Anti-SARS-CoV-2-IgG antibodies were detected in the neonate. A vaginal delivery in this case was safe with clinical diagnosis of COVID-19.

Keywords

COVID-19, Neonate, Pregnancy, SARS-CoV-2, Vertical transmission

Introduction

To date, there are only limited data about the effect of novel coronavirus (SARS-CoV-2) infection on pregnancy, delivery and placental transfer of antibodies. According to recent publications the clinical features of pregnant women infected with SARS-CoV-2 do not appear to be at an increased risk of severe course of disease [1]. Currently, there is no clear evidence of intrauterine vertical transmission during pregnancy [2-4].

Case Report

On 3rd March 2020, a 30-year-old female patient from Nigeria at her 31 and 6/7 weeks` gestation (gravida 1, para 0) presented to the outpatient clinic at the Klinik Donaustadt with premature contractions persisting since 3 days. She had no clinical signs of COVID-19. The

patient declared no travel history in the last 6 month and no contact with persons diagnosed with COVID-19. She was diagnosed during her pregnancy with gestational diabetes mellitus. On admission, the body temperature was 36.6 °C, the blood pressure 120/85 mmHg, the heart rate 110 beats per minute. The laboratory result showed a leukocyte count of $11.2 \times 10^9/L$, absolute neutrophils of $5.3 \times 10^9/L$, absolute lymphocytes of $1.4 \times 10^9/L$ and C-reactive protein of 21.3 mg/L. A fetal ultrasound revealed a normal intrauterine fetus. The estimated fetal weight was 1832 g (30th percentiles) with normal amniotic fluid volume and posterior placenta location. The cervical length measured by transvaginal ultrasound was 8 mm. Tocolysis and antenatal corticosteroid therapy was performed. Routine vaginal swab was obtained for culture and PCR and had a negative result. On the 4th hospital day, the patient developed a body temperature of 39.7 °C without symptoms of a respiratory infection. The blood test showed an elevated C-reactive protein of 51.6 mg/L. An intravenous antibiotic therapy with Unasyn 3 g (ampicillin/sulbactam) 3x/day and antiphlogistic therapy with intravenous paracetamol were started. On the 5th hospital day the patient showed intermittent fever, tachycardia and dyspnoea, consequently a chest X-ray was performed which demonstrated retrocardiac confluent pneumonic infiltrates. These finding were initially considered a bacterial lobar pneumonia. The next laboratory result showed



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a further elevated C-reactive protein of 86.4 mg/L. The blood and urine culture were negative and an infection with influenza A and B could be excluded by PCR. Because of the beginning pandemic, a SARS-CoV-2 RT-PCR test from a nasopharyngeal swab sample was carried out and showed a positive result (ct-e: 35.28). A serum sample obtained at the same day tested positive for Anti-SARS-CoV-2-IgM (ratio: 1.38; Wantai, Beijing, China), but negative for IgA and IgG (Euroimmun, Lübeck, Germany), indicating a recent infection. On the 6th hospital day, the otherwise asymptomatic patient was released from the hospital at her own risk despite medical advice. A prescription for Augmentin (amoxicillin/clavulanic acid) 625 mg 3x/day for 2 days was given. On 26th March, the woman presented to delivery at her 39 and 4/7 week's gestation with regularly uterine contractions. She had no clinical symptoms of COVID-19. She underwent an uncomplicated vacuum-assisted vaginal delivery because of failure to progress in second stage of labour. Estimated blood loss was 500 ml, additionally mediolateral episiotomy was sutured. A healthy male infant was delivered weighing 4130 g, with Apgar scores of 6, 9 and 10 at 1st, 5th and 10th minutes. Arterial umbilical cord pH was 7.24 and base excess -3.8. Venous umbilical cord pH was 7.38. RT-PCR from nasopharyngeal swab of the patient was performed and showed a negative result for SARS-CoV-2. However, the mother displayed SARS-CoV-2-specific IgA (ratio: 6.01) and IgG (ratio: 10.64) against SARS-CoV-2, verifying the infection at beginning of March by serology. Of note, high titres of Anti-SARS-CoV-2-IgG (ratio: 7.34), but not of IgA (ratio: 0.08) were detected in the infant, indicating placental transfer of these antibodies. In addition, a SARS-CoV-2 PCR Test of the blood of the newborn was negative. The postpartum blood test indicated anaemia with a haemoglobin level of 7.0 g/dL and an oral iron supplementation was started. Both mother and infant were discharged on the 3rd postpartum day from the hospital.

Discussion

In this case, we report a pregnant woman in her 33 weeks gestation diagnosed with COVID-19 by PCR and serology, who delivered a healthy, but Anti-SARS-CoV-2-IgG-positive infant. The postpartum and neonatal courses were uneventful. Detection of Anti-SARS-CoV-2-IgG in the newborn furthermore indicates placental transfer of maternal antibodies. Systematic reviews showed that the outcome for mothers and neonates with COVID-19 were generally good in most cases [1,5], however the recent studies demonstrate high cesarean section rates. Della Gatta, et al. reported on a total of 48 women diagnosed with COVID-19 and found that 46 were delivered with a cesarean section [5]. The indications to the cesareans only in 34 cases were known. The described indications were COVID-19 pneumonia (55.9%), premature rupture of membranes (26.5%), fetal distress (17.6%), preterm labour (11.8%), previous

cesarean section (8.8%), previous stillbirth (5.9%), pregnancy at term (5.9%), elevated liver enzymes (2.9%), preeclampsia (2.9%), placenta previa (2.9%), abruptio placentae (2.9%), multiple organ dysfunction syndrome (2.9%), oligohydramnios (2.9%) and psychosocial factors (2.9%). Another review evaluated 32 pregnant women with COVID-19. 27 delivered by cesarean, 2 by vaginal delivery and 3 pregnancies were ongoing [2]. The indications were not clearly reported.

Conclusion

In summary, a vaginal delivery with COVID-19 is a safe option. Our case suggests that the newborn was not affected by COVID-19.

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Statement of Equal Authors' Contribution

I confirm that all authors have contributed significantly, and that all authors agree with the content of the manuscript.

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