

■ Letter to the Editor

Isolated fetal tachycardia in a COVID-19 positive asymptomatic pregnant woman

COVID-19 pozitif asemptomatik gebe kadında izole fetal taşikardi

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Dear Editor,

In this letter, we would like to inform clinicians about an unusual case of isolated fetal tachycardia in a COVID-19-positive asymptomatic pregnant woman.

A 28-year-old woman, G2P1, presented for a routine prenatal visit at 36 weeks of gestation. Except for one previous cesarean delivery, her obstetric history was unremarkable, and her current pregnancy had been uneventful. She gave informed consent for the medical data to be used if necessary. Her medication was a daily multivitamin with iron supplementation. Her vital signs, including fever, were all in a normal range. Ultrasonographic findings were within normal range except fetal tachycardia. Her lungs were clear to auscultation bilaterally on physical examination, while a cardiac exam revealed normal sinus rhythm. The cardioclograph showed fetal tachycardia with a heart rate of 190 bpm while maintaining moderate variability with no decelerations and uterine contractions. (**Figure 1**). She was hospitalized and was treated with intravenous fluids, left lateral positioning and high flow oxygen administration. After one hour, the fetal heart rate baseline was 155 bpm and showed normal variability. Her white blood cell count was 12.3 10⁹ cells/L (4.5–11 x10⁹ cells/L) with the 9.89 10⁹/L (1.8-7.7 x10⁹ cells/L) neutrophil dominance, neutrophil-lymphocyte ratio (NLR) 5.35.

Other laboratory evaluations, including C-reactive protein, were all normal in range. Tests for influenza and other respiratory pathogens were negative. A nasopharyngeal swab for COVID-19 RT-PCR was obtained. Her COVID-19 test was positive after 12 h. She was asymptomatic and started on hydroxychloroquine and Enoxaparin sodium. On the 3rd day, fetal heart monitoring showed slight tachycardia, 170 beats per minute, and loss of variability (fetal biophysical score: 6/10). She underwent an emergent cesarean delivery. The neonate was female, weighed 2845g, and had APGAR scores of 7/8 at first and fifth minutes, respectively and transferred to the neonatal intensive care unit due to respiratory distress. Two PCR swabs of the placenta were sent in addition to neonatal and cord blood testing, and both placental PCR swabs and blood testing were negative. On postoperative day 1, computed tomography of the chest was performed and revealed no acute findings. She was discharged within 48 hours, with instruction to quarantine at home for 14 days from the date of her positive test results for COVID-19.

Potential maternal and infant outcome of pregnancy with COVID-19 is still controversial, although the effects of COVID-19 disease on maternal pathophysiology have become known over time. It is thought to affect the fetal state indirectly due to the

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increased inflammatory response. Secondary hemophagocytic lymphohistiocytosis, one of the important causes of mortality of the disease, is a clinical condition that develops with hyperinflammatory syndrome hypercytokinemia (1). Even if it does not cause mortality, moderate hyper inflammation may be seen in asymptomatic patients. Although it is not based on available evidence, hyperstokinemia may cause fetal stress.

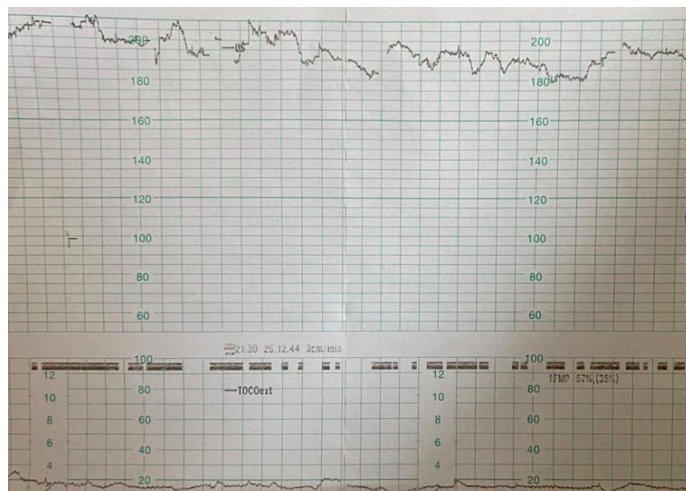


Figure 1. Fetal tachycardia in the cardiotocograph trace of the COVID-19 positive asymptomatic patient

COVID-19 placentas show an increased prevalence of decidual arteriopathy, a pattern of placental injury reflecting abnormalities in oxygenation within the intervillous space associated with adverse perinatal outcomes (2). These areas may contribute to fetal hypoxia and stress and cause stimulation of the fetal sympathetic system. Gracia-Perez-Bonfils et al. demonstrated

that fetuses of COVID-19 patients showed a raised baseline FHR (>10 per cent) due to the effects of maternal pyrexia, maternal inflammatory response, and the "cytokine storm" (3).

In our case, we have encountered a case of isolated fetal tachycardia that we could not detect specific pathology except COVID-19. Even if the patients are asymptomatic, it should be considered that the systemic changes of the disease may affect the fetus. If the cardiotocograph shows fetal tachycardia after clinicians optimize the maternal environment to rectify it, it should be considered that COVID-19 may lead to transient and isolated fetal tachycardia. Therefore, it should be administered with careful fetal monitoring for tachycardia and fetal hypoxia and stress in COVID-19-positive asymptomatic pregnant women.

Declaration of Interest

The authors declare no conflict of interest.

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