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Signs suggestive of congenital SARS-CoV-2 infection with intrauterine fetal death: a case report

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Sir,

We found signs suggestive of congenital severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection ending in stillbirth in an asymptomatic pregnant woman with coronavirus disease 2019 (COVID-19).

COVID-19 is caused by SARS-CoV-2, and the main mode of transmission is person-to-person by respiratory droplets. Vertical transmission has not been demonstrated clearly to date, but the possibility of such transmission cannot be excluded

as a few possible or probable cases of in-utero infection have been reported. However, the risk of such transmission remains unclear [1,2].

We report a case of a pregnant 19-year-old woman with no previous medical history. The pregnancy was supervised in primary health care from an early stage.

At 34 weeks of gestation, the woman underwent a fetal ultrasound scan which revealed: fetus in the 0.3 percentile (weight estimate 1.407 g) with pleural effusion, cardiomegaly and ascites; oligohydramnios; and umbilical arterial pulsatility index >95th percentile. As a result, the woman attended hospital, where repeat ultrasound found that the fetus no longer had a heartbeat.

The pregnant woman was hospitalized to induce labour due to fetal death. Naso-oropharyngeal swab testing for SARS-CoV-2 by reverse transcriptase polymerase chain reaction (PCR) revealed that the woman was positive for the virus. Serologies for Epstein–Barr virus, parvovirus B19, cytomegalovirus, syphilis, rubella and toxoplasmosis were negative.

While hospitalized, the pregnant woman remained asymptomatic, haemodynamically stable and afebrile. Vaginal delivery occurred 16 h after labour induction. The female stillborn weighed 1.460 g, and the mother chose to have no contact with the baby.

An autopsy was performed on the fetus after the pathology team had taken lung samples through fine needle puncture, a technique similar to fine needle aspiration. PCR for SARS-CoV-2 was positive for lung samples. The fetus had biometrics compatible with 31 weeks of pregnancy, generalized oedema, serous cavity effusions, mild cardiomegaly and incomplete right lung segmentation. Preliminary histological findings showed generalized massive vascular congestion, and stasis was apparent throughout all

the organs, with scarce microthrombi. The placenta revealed numerous large, confluent acute infarcts, with vascular congestion and thrombi in the vessels.

This report describes a case with signs suggestive of congenital SARS-CoV-2 infection ending in stillbirth in an asymptomatic pregnant woman. The findings from the fetal ultrasound scan suggest congenital infection [3]. Viral screening was negative. On autopsy, lung samples were obtained from the fetus which revealed SARS-CoV-2 on PCR. The diagnosis of maternal–fetal transmission of SARS-CoV-2 is supported by the criteria of Shah et al., which affirm congenital infection with intrauterine fetal death if a virus is detected by PCR from fetal tissue [4]. The placenta was not tested for SARS-CoV-2, which is a limitation of this case. However, the histological findings are compatible with those found in pregnant women with COVID-19 [5]. Immunohistochemical studies focusing on SARS-CoV-2 viral particles will be performed on placenta and fetal tissues soon.

Conflict of interest

None declared.

Funding

None.

Ethical approval

Written informed consent was obtained from the patient for anonymized information to be published in this article. Ethical approval to report this case was obtained from the Ethics Committee of Hospital Prof. Doutor Fernando Fonseca (Approval ID: 73/2020).

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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