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**Retest positive for SARS-CoV-2 RNA in pregnant women recovered from COVID-19**

In Italy, following initial World Health Organization recommendations<sup>1</sup>, every patient with SARS-CoV-2 infection is retested twice after 14 days of strict quarantine to determine recovery. Every patient who requires elective or emergency admission to hospital is also tested for SARS-CoV-2 RNA. Here, we describe two

cases of asymptomatic pregnant women recovered from SARS-CoV-2 infection who later retested positive.

In the first case, a 33-year-old pregnant woman was admitted at 24 weeks of gestation with fever, asthenia and a cough in March 2020. Reverse transcription polymerase chain reaction of a nasopharyngeal swab was positive for SARS-CoV-2. Chest X-ray and lung ultrasound revealed bilateral and multifocal interstitial pneumonia. Blood tests revealed lymphopenia and anemia. After 5 days, the woman was discharged home. At the end of 14 days of strict quarantine, she was retested twice, with two consecutive negative results. In July, she was admitted for spontaneous labor at 41 + 0 weeks. She was retested for SARS-CoV-2 RNA and had a positive result, although she was asymptomatic with normal chest X-ray and blood tests. She delivered a healthy male neonate weighing 3470 g.


In the second case, a 27-year-old pregnant woman, asymptomatic for COVID-19, was tested for SARS-CoV-2 RNA at 32 + 0 weeks of gestation in April 2020, due to being in close contact with a COVID-19 patient, and the result was positive. After 14 days of quarantine, she was retested twice, with two consecutive negative results. The pregnancy was subsequently uncomplicated. At the beginning of June, 2 days before admission for planned induction of labor at 41 + 4 weeks, she was retested for SARS-CoV-2 RNA and was found to be positive, although she was still asymptomatic for COVID-19. She had a normal chest X-ray and blood tests, and delivered a healthy male neonate weighing 3185 g.

A recent systematic review suggested that 12% of non-pregnant patients who have recovered from COVID-19 may become positive again on molecular testing after two consecutive negative nasopharyngeal swabs<sup>2</sup>. From 6<sup>th</sup> March 2020 to 23<sup>rd</sup> September, at our hospital, there were 15 women who tested positive for SARS-CoV-2 who became negative during pregnancy and were retested at delivery; our retest-positive rate was therefore 2/15 (13%).

Clinically significant recurrences of SARS-CoV-2 infection have been reported mainly in studies in which recovery was defined based on the duration of absence of symptoms, rather than on negative molecular testing<sup>3</sup>. However, most patients who retest positive after negative laboratory testing do not present with recurrence or worsening of symptoms<sup>4,5</sup>. It is still unclear whether a positive retest might be due to sampling or laboratory issues causing false-negatives or false-positives, the effect of medications (for example, corticosteroids) on viral clearance, viral reactivation or actual reinfection<sup>4</sup>. A positive retest may also be due to viral gene fragments and does not necessarily imply viral integrity and, hence, transmission potential<sup>4,5</sup>.

Our cases bring attention to the discharge standards for COVID-19 in pregnancy. Even though the clinical evolution was favorable for both the mothers and infants, practitioners should be aware of the possibility of retesting positive in pregnancy. Although there is probably a low chance that retest-positive patients may transmit the

disease<sup>5</sup>, pregnant/postpartum women with these features should be managed as potentially infectious.

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