

## A pregnant woman and the SARS-CoV-2 infection: how are barriers easily crossed?

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**Summary.** A case of SARS-CoV-2 in a pregnant woman is described. How the case has crossed the barriers is highlighted, hoping this will be useful in planning appropriate intervention in cases of infected pregnant women.

**Key words.** Care, coronavirus, preeclampsia, pregnancy.

*L'infezione da SARS-CoV-2 in una donna incinta: come vengono facilmente attraversate le barriere?*

**Riassunto.** Viene descritto un caso di SARS-CoV-2 in una donna incinta e in quale modo sono stati superati gli ostacoli, sperando che questo sarà utile nella pianificazione di un intervento adeguato nei casi di donne incinte infette.

**Parole chiave.** Corona virus, cura, gravidanza, preeclampsia.

The current case aims to share my personal experience to highlight how the new coronavirus (SARS-CoV-2) can cross emergency barriers, in spite of the enormous efforts displaced by the Italian Government and the regional Italian health systems.

On March 9, while on duty, I was contacted by a midwife to assess a pregnant women at 32 weeks. She was transferred to the obstetrics and gynecology unit from the emergency unit, because she complained of pain in the upper abdomen (specifically epigastralgia). A specific obstetric assessment was requested.

When I reached the patient, I found her on the gynecological bed for clinical assessment. Two midwives were doing a triage check for CoViD-19 screening, according to the World Health Organization's suggestion at the time. Midwives asked the patient: 1) Do you have fever? 3) Do you have a cold and sore throat? 4) Do you have burning in the eyes? 5) Do you have breathing difficulties? 6) Have you had any contact with possible cases of CoViD-19 or with people coming from geographical areas at risk for CoViD-19 or have you been in any "red" areas of novel coronavirus outbreaks? (If yes, when and where?). Additionally, midwives had already assessed the arterial blood pressure and checked that the patient's pregnancy was normal and healthy. The patient answered only that she had a mild cough and pain in the upper abdomen. No contact or travel in a "red zone" was reported. Her arterial blood pressure was normal.

I assessed the patient. I asked her where the pain was and when it began. She answered that her symptoms had begun in the morning with a cough without expectoration. The cough was mild and improved in the afternoon, while mild pain from the upper abdomen rose up to the chest. I asked if she had pain specifically in the chest. She answered that she was not able to describe a strange sense of constriction or

oppression in the chest, in front and lateral. On the back, same constriction was referred to at the lower limb of ribs. I found the description strange. I asked if she was sure she did not have fever and if she was able to breath. She answered yes, but, for pain, she had taken paracetamol. She added that she had plate on her throat, so she used oxygenated water to clean it, but she was sure she did not have a sore throat. A mild headache was also part of the symptoms.

I took a trans-vaginal sonographic cervical measurement to exclude preterm delivery. I touched the abdomen and found nothing abnormal. I determined a normal pregnancy by assessing the fetal movements, amniotic fluid and fetal hearth beat by trans-abdominal sonography. Then, I checked the chest: normal. I did the Giordano's maneuver: negative. I counted her breathing: 16. I told a midwife to assess the peripheral oxygenation: 97%. I checked the throat: mild erythema along with strange clusters of puruloid material were found on the tonsils and on the throat. I collected the history again and asked where she had traveled recently. The patient became worried and disclosed that three days prior, she had gone to the sea, close to the "red zone" of the Marche. In the morning, she phoned her physician for information on her abdominal pain. The physician suggested that she call the emergency unit, as she was alone at home. The emergency team reached her at home and she was transferred to the hospital, despite the fact that she was not happy to be transferred to the hospital. The emergency team said that for her best care, she should receive a specialist assessment from the obstetrics and gynecology unit.

She was assessed in the emergency unit and transferred to the Department of Obstetrics and Gynecology as quickly as possible.

When I completed my assessment, I discharged the patient. However, I communicated to the mid-

wives and to the emergency physician that the case was strange and that I suspected a case of CoViD-19. The emergency colleague agreed with me that the case was strange, even if the criteria for CoViD-19 at his first assessment, was not met. Therefore, he assessed her heart, and he found a family history of cardiovascular risk.

In the succeeding days, colleagues communicated to me that the patient was fine at her home and in quarantine. The SARS-CoV-2 swab test was collected and it was positive. The local health system team traced all contacts of the patients for follow-up and quarantine (among them, all other caregivers and me). The midwives and I had not used protection, as the case was not a suspicious one.

Nevertheless, I currently add that four days after the contact, I complained of mild symptoms of rhinitis. The SARS-CoV-2 swab tests were negative for me and for the midwives.

What we can learn from such a history would be that, in my opinion, an atypical case of CoViD-19 along with the fear of pregnancy complications (such as a preeclampsia) by the patient, by her family doctor, by the emergency team, by the emergency colleague, by the midwives and – maybe – by me has easily crossed all the barriers for preventing the contagion, thereby introducing the SARS-CoV-2 into the hospital.

In conclusion, it is still very difficult to screen cases of CoViD-19, when the main symptom disclosed by patients is focused on pregnancy. Patients should be aware that mild symptoms of CoViD-19 must be reported as soon as possible, because fear of pregnancy complications allows SARS-CoV-2 to cross all the barriers of a health systems, like a hot knife crosses the butter.

*Conflict of interests:* the author have no conflict of interests to declare.