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Obstetrics

Severe COVID-19 in a pregnant patient admitted to hospital in Wuhan

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In December 2019, an outbreak of a novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) began in Wuhan, Hubei Province, China. This virus strain causes the respiratory illness coronavirus disease 2019 (COVID-19). Despite significant research efforts in this field, there is limited data on COVID-19 in pregnancy. This article presents a case of a pregnant woman from Wuhan infected with SARS-CoV-2, including her symptoms, pregnancy outcome, and treatment strategy.

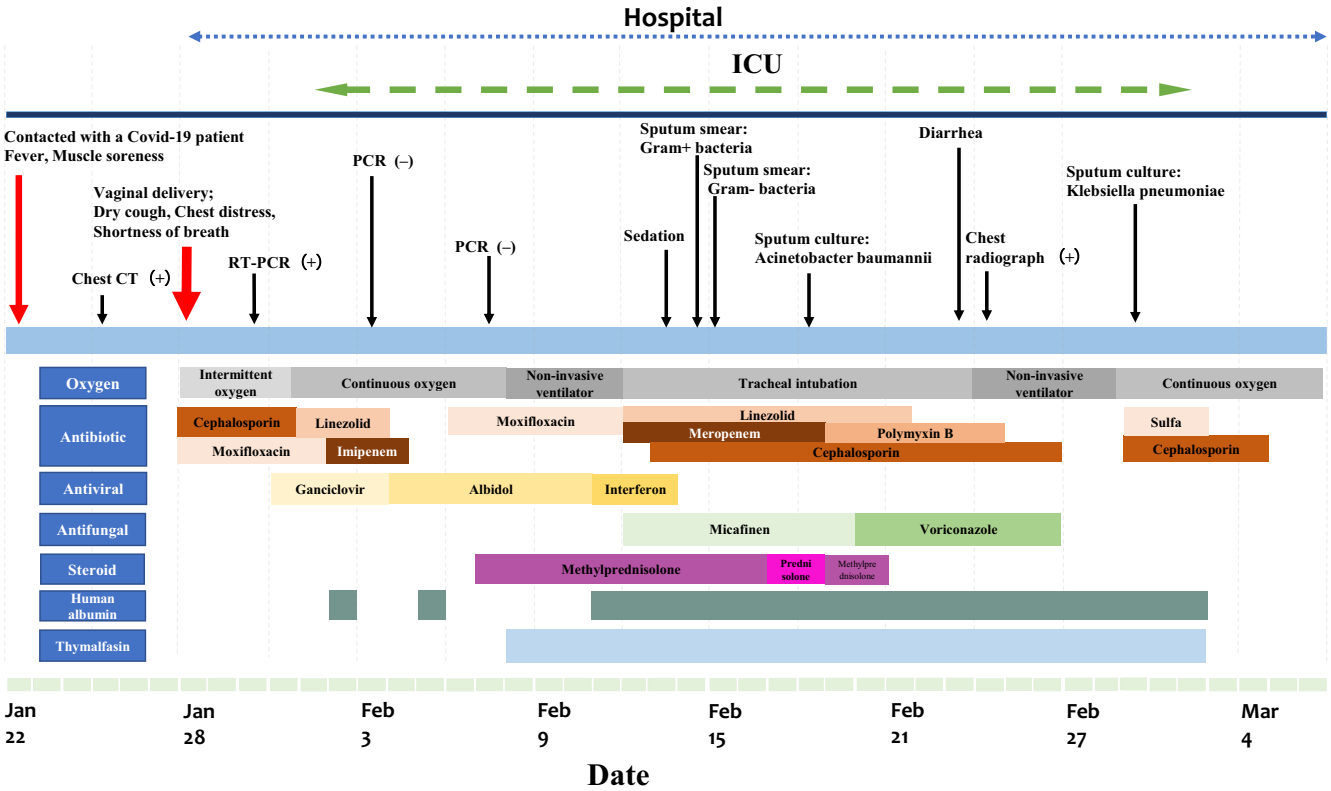

FIGURE 1 Symptoms and treatment strategy according to the day of hospitalization, Jan.22 to Mar.4.

A 35-year-old woman at 34 weeks of pregnancy was admitted to hospital on January 28, 2020 with clear vaginal fluid discharge that had been ongoing for 3 hours. Labor occurred spontaneously that day and a healthy female neonate was delivered that tested negative for SARS-CoV-2 on throat swab.

The patient presented with persistent low fever and dry cough 1 day later. Laboratory investigations showed increased neutrophil ratio, reduced lymphocyte count, and increased C-reactive protein levels. Throat swabs from the patient tested positive for SARS-CoV-2 by real-time RT-PCR assays. Chest CT scan showed multiple infiltrations of different sizes in both lungs. The patient had no history of comorbidities. She was treated with antibiotics and hormones and administered oxygen through a nasal catheter.

The patient experienced dyspnea and cyanosis on the following day. Given her critical condition, she was transferred to the intensive care unit (ICU) for further treatment. After transfer to the ICU she quickly developed severe acute respiratory distress syndrome. CT scan showed a density shadow and large-scale ground-glass opacity in both lungs. Tracheal intubation (supine) was given, and relevant drugs were used. Figure 1 shows the timeline of the patient's symptoms and treatment strategy.

The patient's condition significantly improved after 11 days. Tracheal intubation was removed and replaced by a noninvasive ventilator, and she was transferred to the general ward for treatment. During treatment, the patient developed second-degree bedsores, which gradually improved by regularly turning the patient over and use of an air mattress.

The present case describes a pregnant woman with COVID-19 that rapidly developed into severe respiratory infection following vaginal delivery. To our knowledge there have been no published reports of pneumonia or death in women infected with SARS-CoV-2 after cesarean delivery in the third trimester.[1] Due to increased oxygen consumption and pulmonary load during pregnancy, cesarean delivery may help to avoid adverse events caused by pulmonary insufficiency during vaginal delivery. For critically ill pregnant women, tracheal intubation should be used as early as possible, and sedative drugs should be used to reduce oxygen consumption. Broad-spectrum antibiotics and antiviral drugs are needed, based on experience in treating community-acquired pneumonia, as well as protective treatments for the heart, liver, and kidneys.

AUTHOR CONTRIBUTIONS

CF contributed to the design and plan of the study. JB contributed to data collection. YY drafted the manuscript. CF and YS revised the manuscript critically. All authors read and approved the final manuscript.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Table S1. Name and manufacturer of drugs.