

BRIEF COMMUNICATION

Obstetrics

Rapid improvement of a critically ill obstetric patient with SARS-CoV-2 infection after administration of convalescent plasma

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SARS-CoV-2 (COVID-19) infection in pregnancy increases the likelihood of hospitalization, admission to intensive care, and receipt of mechanical ventilation as compared with nonpregnancy.¹ On June, 21, 2020, a 33-year-old pregnant woman (27⁴ weeks of gestation) with SARS-CoV-2 infection presented to Hospital San José Tec Salud, Monterrey, México, with respiratory distress and oxygen saturation below 90% (room oxygen). She had developed fever, asthenia, adynamia, myalgia, dry cough, anosmia, and diarrhea 7 days prior to admission. Her past medical history was significant for smoking, which she had stopped at 4 weeks of gestation.

On admission, the woman was treated with oxygen therapy (8 L/min) via a nasal cannula; chest X-ray showed bilateral interstitial infiltrates. Laboratory data revealed leukopenia with lymphopenia, raised interleukin-6 and C-reactive protein, and compensated respiratory alkalosis (Fig. 1).

Therapy was initiated with enoxaparin (60 mg), azithromycin (250 mg), ceftazolin (600 mg), lopinavir/ritonavir (400 mg/100 mg), methylprednisolone (40 mg), and supportive care (antipyretics, analgesics, fluids, and nutrition). On hospital day 2 (HD2), saturation decreased and chest X-ray showed an extension and worsening

density of interstitial infiltrates. On HD3, the woman was intubated and placed on mechanical ventilation; intermittent pressure support with intravenous ephedrine was provided as needed owing to intermittent periods of hypotension and bradycardia. Continuous fetal heart rate monitoring was non-reassuring. Serum IgG against SARS-CoV-2 was undetectable. Despite medical treatment, her condition continued to deteriorate. A multidisciplinary team discussed the case and the possible therapeutic interventions. We sent a request to the hospital Bioethics Committee for compassionate use of convalescent plasma. The request was approved. Methylprednisolone was discontinued and prenatal corticosteroid therapy was initiated. The treatment plan and options were discussed with the patient's legally authorized representative who consented to proceed with the administration of convalescent plasma.

Two doses of convalescent plasma from a compatible donor with confirmed anti-SARS-CoV-2-IgG were transfused (24-h interval, HD4–HD5). Prepartum testing for fetal well-being was reassuring both before and after each transfusion, and no adverse effects were identified. An improvement in oxygen requirement was noted on HD6. On HD7, the woman passed a trial of

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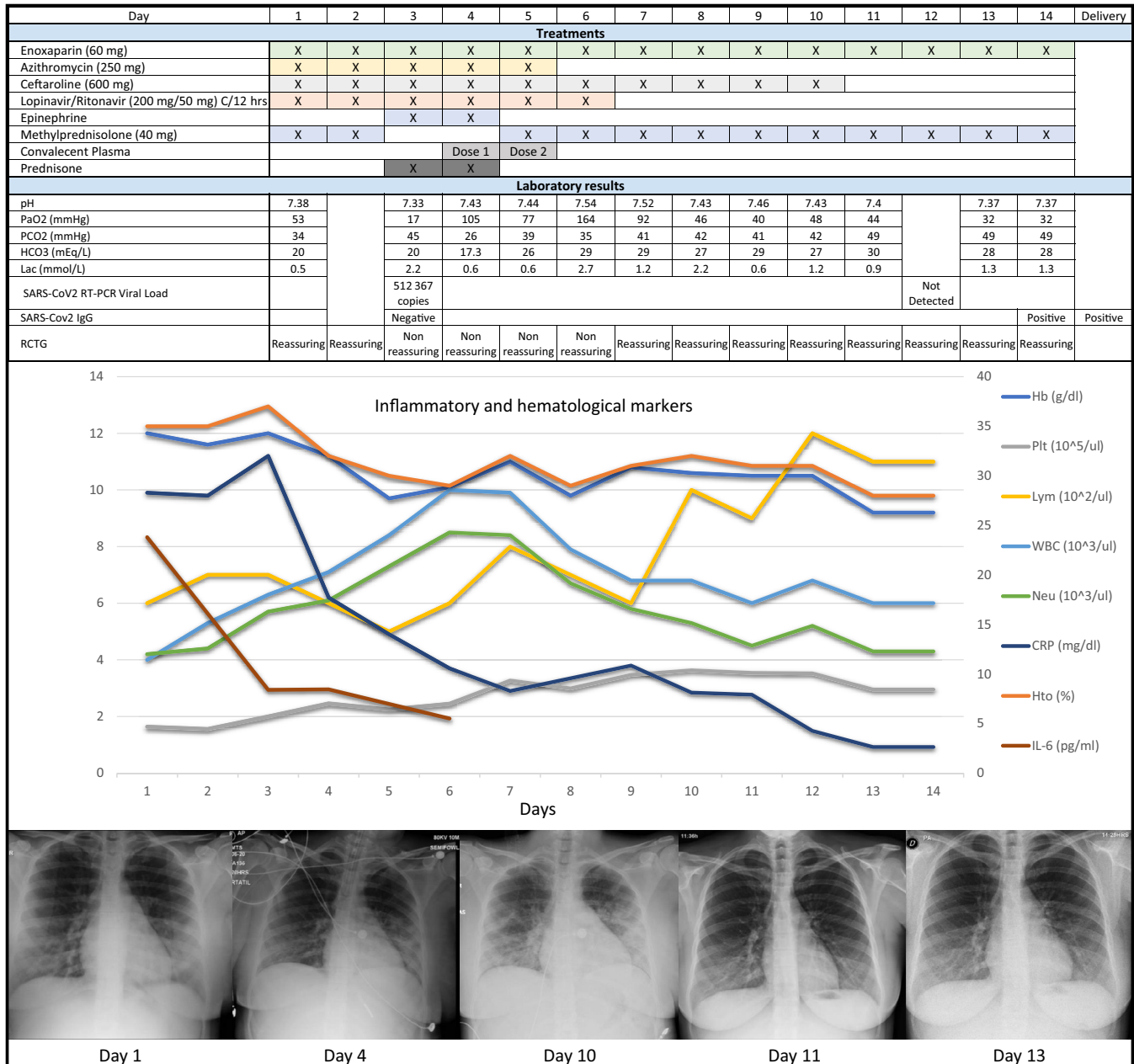


FIGURE 1 Clinical progress of a critically ill obstetric patient with SARS-CoV-2 infection after administration of convalescent plasma. A 33-year-old pregnant patient (27⁴ weeks of gestation) with SARS-CoV-2 infection developed acute respiratory deterioration despite administration of antiviral, antibiotic, and corticosteroid therapy. She was treated with two doses of convalescent plasma, resulting in an improvement in respiratory parameters and inflammation markers, and a consecutive radiologic improvement in lung appearance

spontaneous breathing and was placed on non-invasive positive pressure ventilation; ritonavir/lopinavir and azithromycin were discontinued. She was placed on supplemental oxygen via a nasal cannula on HD9, and successfully transitioned to room air on HD12. On HD14, she was discharged from the hospital. A week later, chest X-ray showed absence of bilateral interstitial infiltrates and anti-SARS-CoV-2 IgG was detected. At 39 weeks of gestation, a female neonate with growth restriction was delivered vaginally; growth restriction has been previously associated with SARS-CoV-2 infection in pregnancy.²

Administration of convalescent plasma is associated with maternal survival.^{3,4} Convalescent plasma may be a safe alternative for pregnant women who have rapid deterioration of respiratory function and a seronegative state in which the fetus shows distress parameters.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest.

AUTHOR CONTRIBUTIONS

The patient in this case study was supervised by GM, CV, SC, MM, JC, and SS. DD and SC were involved in recruitment of the convalescent plasma donor. CV, GM, and DD wrote the final manuscript.

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Obstetrics

Anxieties and apprehensions among women waiting for fertility treatments during the COVID-19 pandemic

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While health systems around the world are busy trying to manage the COVID-19 pandemic, many elective services—including fertility services—have been suspended over the last 8–9 months.¹ However, “time” is a crucial factor for infertile couples, and infertility has been shown to have a significant negative impact on the psychological health of women, and has been found to produce a variety of emotional responses.²

As a tertiary care referral centre (All India Institute of Medical Sciences (AIIMS), New Delhi, India), our unit was catering between 100 to 200 new registrations per month of infertile couples consulting for various infertility treatments before the pandemic (Figure 1). However, these services were shut down following the sudden declaration of national lockdown in India on March 24, 2020, as

manpower and infrastructure were shifted towards management of the pandemic.³

Studies from Western countries have shown that infertility remains a high-ranking stressor even during the COVID-19 pandemic.^{4,5} In a study from Israel by Kimhy et al., it was found that 72% of couples wished to resume treatment despite the pandemic.⁶

The need to resume fertility treatments needs to be addressed while curtailing COVID-19, which is unlikely to end in next 4–6 months, and delaying treatment is likely to significantly impact infertile patients who are seeking it. There is a need to adopt guidelines and standard operating procedures (SOPs) depending on the facilities available and triaging patients in need of fertility services, depending on age and cause of infertility.