



## CASE REPORT

# The Effect of Remdesivir and Convalescent Plasma in Severe COVID-19 in Pregnancy

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## Background

Pregnant woman is at risk of increased vulnerability from coronavirus pandemic, which is concerning for maternal and fetal complications. There is lack of strong evidence for the best practice in terms of management and treatment [1].

Tocilizumab and remdesivir were reported to be effective in a pregnant patient with coronavirus disease 2019 [2].

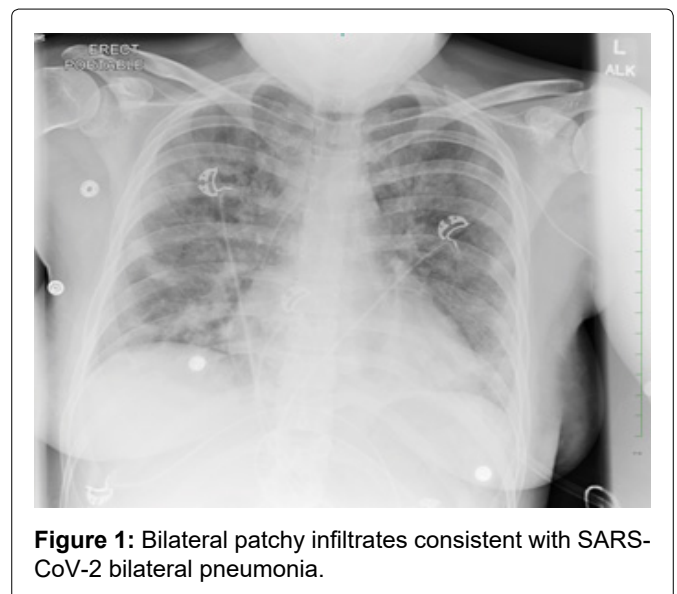
There are limited data regarding treatment options for pregnant women with severe coronavirus disease 2019 (COVID-19). However, the use of convalescent plasma therapy and remdesivir in was reported to be successful in the management of a critically ill obstetric patient with novel coronavirus 2019 infection [3].

## Case

32-year-old female, 27-week 6-day intrauterine pregnancy as confirmed by ultrasound, hairdresser by profession presented with 5-day history of shortness of breath, persistent cough, low-grade fever.

Vital signs temperature 100.2, heart rate 106, respiratory rate 20, BP 108/55, she was requiring 6 L of oxygen to maintain an oxygen saturation of 92%.

On presentation, labs showed WBCs 5, neutrophil 69%, lymphocyte 13%, bands 14%. Manual differential showed absolute neutrophils 3.5, absolute lymphocytes low 0.66, absolute monocytes 0.15, absolute bands 0.71 hemoglobin 9.2, hematocrit 27.9, platelets



**Figure 1:** Bilateral patchy infiltrates consistent with SARS-CoV-2 bilateral pneumonia.

208, CPK 105, BNP less than 10, troponin less than 0.01, LDH 303, sodium 134, potassium 2.9, chloride 103, bicarbonate 17, BUN 5, creatinine 0.62, calcium 8.2, glucose 96, lactic acid 0.8, bilirubin 0.5, CRP elevated 10.8, protein 6.5, AST 30, ALT 21, alkaline phosphatase 182, albumin 2.5, magnesium 1.6, GFR 120. ABG showed pH 7.44, PCO<sub>2</sub> 27, PO<sub>2</sub> 68.

Nasopharyngeal swab was positive for the novel coronavirus severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Chest X-ray revealed bilateral patchy infiltrates (Figure 1), consistent with SARS-CoV-2 bilateral pneumonia.

It was a challenging situation given her progressive respiratory failure. The patient's oxygen requirement increased and she was placed on high flow nasal cannula at 40L with an  $\text{FiO}_2$  of 80%.

After discussion with the patient in terms of benefits and risks on the pregnancy and the fetus, the patient was started on IV remdesivir 200 mg once then 100 mg IV daily for 4 more days. She received convalescent plasma on day 2 of admission. She also received IV ceftriaxone 2 g IV daily for total of 5 days, IV famotidine 20 mg twice daily.

Close fetal monitoring was started with no evidence of fetal distress. Patient was self-pronating at times which was limited by her pregnant belly.

On day 6, her oxygenation started to improve and she was weaned from the high flow nasal cannula to 4 L nasal cannula, and on day 7 she was on room air.

Patient had a total hospital stay of 9 days. Fetal condition was satisfactory as per close monitoring, and she was discharged in a stable condition.

## Conclusion

Remdesivir and convalescent plasma may be effective for treatment of severe COVID-19 in pregnancy, but additional data are needed to guide risk-benefit considerations.

Randomized controlled trials are ongoing and needed to determine the efficacy of remdesivir and convalescent plasma in the management of severe SARS-CoV-2

infection, but this case and other limited case series show promising results for remdesivir and convalescent plasma as a viable therapy for COVID-19.

## Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for clinical information to be reported in the journal. The patients understand that her names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

## Financial Support and Sponsorship

None.

## Conflicts of Interest

There are no conflicts of interest.

## References

1. Masmajan S, Pomar L, Lepigeon K, Favre G, Baud D, et al. (2020) [COVID-19 and pregnancy]. *Rev Med Suisse* 16: 944-946.
2. Naqvi M, Zakowski P, Glucksman L, Smithson S, Burwick RM (2020) Tocilizumab and Remdesivir in a Pregnant Patient with Coronavirus Disease 2019 (COVID-19). *Obstet Gynecol* 136: 1025-1029.
3. Anderson J, Schauer J, Bryant S, Graves CR (2020) The use of convalescent plasma therapy and remdesivir in the successful management of a critically ill obstetric patient with novel coronavirus 2019 infection: A case report. *Case Rep Womens Health* 27: e00221.