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Hemoperfusion in Pregnant Patients with COVID 19 Infection – a Case Series

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Case Study: Introduction: Extracorporeal blood purification therapies, such as hemoperfusion, have been proposed as an adjunct in the treatment of coronavirus disease 2019 (COVID-19) by the removal of cytokines associated with sepsis. However, limited data exist on the use of this technique in pregnancy.

Clinical Features: We describe the use of hemoperfusion in three cases of critical COVID-19 infection in pregnancy at St. Luke's Medical Center in Quezon City, a tertiary hospital in Manila, Philippines. In the first case, the first session was terminated for fetal bradycardia and delivered to a preterm baby girl at 30 weeks of gestation (AOG). Subsequent hemoperfusion sessions were continued and tolerated well. Both mother and neonate were discharged alive. In the second case, an emergency caesarian section was performed before hemoperfusion due to maternal and fetal deterioration. She delivered a live preterm baby girl at 31 weeks AOG. Postpartum, four sessions of hemoperfusion were performed and tolerated well. However, the mother developed complications from ruptured viscus and expired while the neonate was discharged alive. In the third case, four sessions of hemoperfusion were performed and tolerated well with no maternal or fetal adverse events and patient was subsequently discharged. She was readmitted four months later and delivered a live, full-term baby girl. Key observation in the series was a significant decrease in oxygen and inotropic support following the completion of therapy. Only one case completed hemoperfusion prior to delivery and all sessions of hemoperfusion were tolerated without any maternal or fetal adverse outcome (based on NST monitoring).

Conclusion: This series demonstrated that hemoperfusion may have a role as an adjunct therapy in the management of pregnant patients with critical COVID-19 disease. We have also demonstrated that hemoperfusion may be safe and well tolerated among pregnant patients, and is not associated with fetal adverse outcomes.

Table 1. Summary of Clinical and Laboratory Parameters