

# Pregnant Patients Undergoing General Anesthesia in COVID-19 Infected Patients

Jennifer L. Harenberg\*

Department of Anesthesia, Intensive Care and Pain Management, Faculty of Medicine, Ain Shams University, Cairo, Egypt

## Abstract

The 2019 coronavirus outbreak makes providing perioperative treatment to pregnant patients more delicate (COVID-19). The objective of this study is to investigate postoperative complications and hemodynamic stability in COVID-19 positive pregnant women undergoing spinal anaesthesia while giving birth. In this prospective experimental investigation at a tertiary teaching sanitarium in Jordan, COVID-19 positive parturients were linked between January and June 2021. While each COVID-19 negative parturient was paired with a COVID-19 positive parturient, every COVID-19 positive parturient underwent anaesthesia under the same circumstances as the control group. In the 31 COVID-19 cases, 22 (71) had generally good health, and 8 (25.7) underwent successful emergency caesarean sections.

**Keywords:** SARS-CoV-2 • Acute respiratory syndrome • General Anesthesia

## Introduction

During surgery, there were no appreciable changes in heart rate, SBP, DBP, or chart ( $p > 0.05$ ). 12 babies delivered to COVID-19 positive people (36.4) were admitted to the NICU ( $p = 0.018$ ), as opposed to four (11.8) in the control group. There was no statistically significant change in the prevalence of postoperative complications. Last but not least, spinal anaesthesia is preferred for caesarean deliveries in COVID-19 instances because it is a safe anaesthetic technique for expectant mothers. As a result of the effective mortal-to-mortal transmission of the severe acute respiratory pattern coronavirus 2 (SARS-CoV-2) in the United States, the prevalence of coronavirus complaint 2019 (COVID-19) patients is increasing. Preparing for the unpredictable nature of labour and delivery is essential.

The purpose of this evaluation, with an emphasis on preparation and fashionable clinical obstetric anaesthetic practises, is to provide anesthesiologists caring for pregnant women during the COVID-19 outbreak with evidence-based recommendations or professional judgement. The SARS coronavirus 2 (SARS-CoV-2) first surfaced in Wuhan, China, in late 2019 and quickly spread throughout the world, causing coronavirus complaints (COVID-19). It has a higher rate of transmission from mortal to mortal despite having a lower mortality rate than the other coronaviruses. A study of the information that is currently available regarding the obstetric case with COVID-19 may be beneficial for anesthesiologists. It is exceedingly difficult to handle obstetric extremities in the COVID-19 outbreak since these patients require prompt treatment to save both the mother and the unborn child's lives. In order to uncover problems and prevent complications and prevent potentially life-threatening circumstances, all pregnant cases were voluntarily admitted and tested for COVID-19 early in their gestation.

Anesthesiologists have significant challenges when treating parturients

**\*Address for Correspondence:** Jennifer L. Harenberg, Department of Anesthesia, Intensive Care and Pain Management, Faculty of Medicine, Ain Shams University, Cairo, Egypt, E-mail: Jennifer.harenberg1@yahoo.com

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with COVID-19. The effects of COVID-19 during pregnancy are unknown due to a paucity of research, but understanding the illnesses linked to SARS and MERS may shed insight on these effects. Although COVID-19 is typically seen as a "adult epidemic," paediatric anaesthesia is impacted due to its significant negative effects on children. Even while the SARS-CoV-2 infection fatality rate is thought to be closely correlated with age, the epidemic has also had an impact on children and young adults. Nonetheless, COVID-19 symptoms in kids can also appear as a multisystemic seditious complaint, with severity ranging from moderate to adult-like. Also, children's maturity makes them "ideal" carriers for spreading the ailment across the populace if they have an asymptomatic or pauci-characteristic sickness. In addition to the clinical indications of SARS-CoV-2 infection, the COVID-19 outbreak may have long-term health and socioeconomic effects on kids and teenagers.

## Literature Review

This narrative review intends to highlight any lessons that can be learned in the event of future "afflictions" and to show how the COVID-19 epidemic has altered and transformed paediatric anaesthesia practise. The scientific community has been pushed to adapt and transform clinical practise in an unanticipated and useful way as a result of the rapid-fire elaboration and distribution of exploration and clinical discoveries. The same may be said for the fusion of cutting-edge platforms, methods, and technologies with AI and extensive cooperative conditioning. The perception lessons gained from this outbreak will ultimately benefit a lot of conditions and result in improved safety and care standards. Nonetheless, this pandemic has highlighted the flaws and constraints in our healthcare system [1-3].

The global practise of anesthesiology has undergone major change as a result of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic. Labor and delivery facilities in the US managed antepartum patients with COVID-19 while maintaining safe isolation procedures and providing obstetric anaesthetic treatments for expectant and postpartum patients. While the majority of SARS-CoV-2-infected expectant mothers don't have any symptoms, there is compelling evidence that pregnancy raises the risk of severe COVID-19 and unfavourable obstetric and neonatal outcomes. Patients with COVID-19 who are pregnant or recently became pregnant are more likely than nonpregnant patients to be admitted to intensive care units (ICUs) and undergo mechanical ventilation, and preexisting maternal comorbidities represent substantial risk factors for both mothers and neonates. The American College of Obstetricians and Gynecologists (ACOG), the Society for Maternal-Fetal Medicine (SMFM), and the Centers for Disease Control and Prevention have now advised vaccination campaigns and extensive availability to vaccine for all pregnant persons as a result of these findings (CDC).

## Discussion

Early research revealed that many obstetric patients with COVID-19 were asymptomatic, and that symptoms including shortness of breath, exhaustion, congestion, and even fever could be confused for those that are typical of pregnancy or labour in those who do experience them [4,5]. It was suggested that all pregnant people admitted to labour and delivery and antepartum units undergo universal SARS-CoV-2 testing, especially in regions with a high prevalence of SARS-CoV-2, after incidents in which numerous medical professionals were unknowingly exposed to obstetric patients with COVID-19 infection. This method produced information on the ratios of asymptomatic but infected parturients to those who were slightly, severely, or seriously ill. A COVID-19 infection was found in 10% of pregnant or recently pregnant women admitted to the hospital for any cause, according to a live systematic review and meta-analysis that included 192 papers and was updated in March 2021. Additionally, it revealed that non-White ethnic origin may be a risk factor for severe COVID-19. This study also confirmed that pregnant women continue to have an elevated risk of severe COVID-19, particularly those with high body mass index and rising maternal age.

According to data from the United Kingdom Obstetric Surveillance System (UKOSS), 24% of cases admitted in the first wave had moderate or severe disease, compared to 36% with the Alpha variant and 45% with the Delta variant. This suggests that the severity of the illness's presentation in pregnant people has gotten worse over time. In general, patients from racial minorities have a disproportionately high burden of morbidity and mortality from COVID-19. The average 3-fold higher mortality rates for black pregnant and postpartum women in the United States, with severe gaps ranging by location and state, are more evidence of this disparity in healthcare outcomes.

The risk of significant maternal morbidity and mortality is further increased by the syndemic of health care inequities among ethnic/racial minorities and COVID-19. The COVID-19 epidemic presents a critical opportunity to build resources to enhance fair obstetric care, and SMFM emphasised the difficulties to be solved, including telehealth access and overcoming bias, among many other things. It is a complicated subject to manage severe critical maternal COVID-19 and admit obstetric patients to ICUs. Institutions have made significant changes to their obstetric anaesthetic services and developed technologies to accommodate new workflows and take into account the possibility that staff members may be inexperienced when providing urgent care for patients in high-risk scenarios [6,7].

We operationalized an obstetric ICU on our labour and delivery unit in the spring of 2020 as a result of traditional ICUs being overcrowded. This allowed us to manage the care of mild to critically ill COVID-19 parturients while continuing to be able to provide obstetric care to noninfected obstetric patients. Other in-between modalities were initially not used to reduce the risk of aerosolization and because it was believed that a rapid escalation to invasive mechanical ventilation would be required. Nasal oxygen therapy or tracheal intubation were initially proposed as the 2 modalities for COVID-19 management in pregnant people. The use of intermediate therapies, such as

noninvasive positive-pressure ventilation with bilevel positive airway pressure, continuous positive airway pressure, and intermittent positive airway pressure, has since acquired popularity and more acceptance.

## Conclusion

Once mechanical ventilation has been established, prone positioning, high concentration nitric oxide inhalation, and extracorporeal membrane oxygenation (ECMO) are further effective therapeutic alternatives. The use of postpartum mechanical ventilation was associated with levels of haemoglobin, oxygen saturation, and oxygen treatment before delivery. These standards could act as indicators for patient transfer to a facility offering the proper level of maternity care. Including pregnant women among priority populations for COVID-19 vaccination and ensuring racial and ethnic equity in access to vaccination throughout the pandemic have been highly emphasised because SARS-CoV-2 infection is associated with worse outcomes in the obstetric population, as indicated by higher ICU admissions rates, higher use of invasive ventilation, higher use of ECMO, and higher death rates.

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## Conflict of Interest

There are no conflicts of interest by author.

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