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Anaesthesia Issues for Obstetric Women with COVID-19

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Abstract

The attending anesthesiologists have always had difficulty administering anaesthesia during obstetric and non-obstetric surgery. Although statistics from the industrialised world are scarce, data from underdeveloped countries show that 1-2% of all obstetric patients undergo emergency non-obstetric surgery at least once in their lifetime. A pregnant woman may need to be hospitalised due to a number of disorders and their complications, which may necessitate surgical intervention. Pregnancy-related surgical situations, such as ovarian cyst torsion, appendicitis, strangulated hernias, traumatic injuries, etc., demand prompt attention. Although the risk of surgery is similar to that of the general population, managing anaesthesia during this time is quite difficult.

Keywords: COVID-19 • Anaesthesia • SARS-CoV-2

Introduction

The primary goal of providing anaesthetic services during these emergency surgical procedures is to ensure the safety of both the mother and the foetus in utero. Despite recent developments in the clinical field and technology, anesthesiologists still have a lot of difficult duties to complete in order to provide safe anaesthesia services. In addition to sociocultural barriers, anesthesiologists face many clinical difficulties, such as evolving demographic features like advanced maternal age, obesity, comorbidities like diabetes, severe anaemia, cardiac illnesses, etc. To ensure safe sedation, consideration of both pregnancy-related physiological traits and the pharmacological makeup of various drugs is necessary. Provincial and General Anaesthesia (GA) are connected by potential complexities, some of which may be uncommon but are capable of becoming fatal or permanently incapacitating. Precautions taken during operations centre on preventing the four "H" conditions of hypoxemia, hypotension, hypovolaemia, and hypothermia. Considering the mother's altered physiology and the uterine blood stream's respectable utilitarian nature. The amount of gestation for conducting physiological condition will be broken down into the following major categories for administration of physiological condition throughout pregnancy. The goals of anaesthesia during pregnancy are to ensure the mother's recovery and the normal continuation of the pregnancy, barring any injury to the foetus. Except in cases where a pregnant patient is actually two patients, the anaesthetic procedure should be the same as for a non-pregnant patient with an aneurysm. Patients who are pregnant have different needs because of the physiologic changes that occur throughout pregnancy. At some point during pregnancy, physiological changes could possibly increase the risk of contracting coronavirus illness 2019 (COVID-19).

The major problems of COVID-19 pollution and pregnancy are only partially known. There have been reports of extremely detrimental maternal and perinatal outcomes such preterm delivery, intensive care unit admission, neonatal and intrauterine death. As new information and evidence become available, our understanding of the epidemiology, aetiology, disease development, and medical course of COVID-19 is continually changing. The current instance offers comparable insights on COVID-19 and anaesthetic concerns for the patient's upcoming caesarean delivery. In this case report, we outline a successful spinal anaesthesia performed on a pregnant woman who had a COVID-19 diagnosis. Anaesthesia professionals need to be prepared to provide safe, patient-centered care and protect each member of the obstetric team from virus exposure in case they have to care for women throughout labour and caesarean delivery. Furthermore, it is crucial for our profession to share its experiences and methods in order to inform our interdisciplinary approach and provide these women with the best treatment possible. Due to the physiological changes in their immune and cardiorespiratory systems that render them resistant to hypoxia, pregnant women may also be especially susceptible to respiratory infections. According to some evidence, the risk of nausea during the later stages of pregnancy may also be higher.

In addition to the viral inflammation, parturients are also more prone to subsequent bacterial pneumonia. During the SARS outbreak, pregnant women had worse health outcomes than non-pregnant ones, including higher rates of tracheal intubation, renal failure, and disseminated intravascular coagulation. There are concerns relating to the potential impact of COVID-19 on foetal and neonatal outcomes in addition to the impact on a pregnant mother. Pregnant women who have viral pneumonia are at increased risk for preterm birth, intrauterine growth restriction, and perinatal mortality. The first signs usually appear 14 days after exposure. The most frequent symptoms, which range from mild to severe, are fever and cough. Less often occurring symptoms include dyspnea, lethargy, headaches, and anosmia. Contamination without symptoms is conceivable. Other case sequence observed that most caesarean births have been for signs other than maternal deterioration owing to SARS-CoV-2 infection. Pregnant women with COVID-19 are more likely to deliver by caesarean section. The availability of COVID-19 poses issues to the anaesthesia provider and a larger group, and it is conceivable to come across pregnant patients who have tested positive for COVID-19 inside maternity services.

Preparation for the unpredictable environment of labour and delivery is essential given the rising number of cases of coronavirus disease 2019 (COVID-19) caused by the effective human-to-human transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the United States. In the treatment of obstetric patients with COVID-19 infection or persons under investigation (PUI), there are two main priorities: (1) providing for the wide range of asymptomatic to very unwell pregnant and postpartum women; (2) shielding other people from exposure during the hospital delivery (health care providers, personnel, family members). With an emphasis on readiness and best clinical obstetric anaesthetic practise, the objective of this review is to equip anesthesiologists caring for pregnant women during the COVID-19 pandemic with evidence-based advice or, when data is scarce, expert opinion. Colds are brought on by the most prevalent corona viruses in humans. However, three of these viruses-Middle East Respiratory Syndrome (MERS by MERS-CoV),

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Severe Acute Respiratory Syndrome (SARS) by SARS-CoV, and COVID-19 by SARS-CoV-2-cause more severe, acute illnesses. The WHO has deemed the current outbreak a "global public health emergency." Some surgical and anaesthetic interventions outside of intensive care medicine are still required and must be carried out, notwithstanding all attempts to minimise the surgical lists and to cancel or postpone non-time-critical surgical interventions. In relation to obstetric interventions and neuraxial labour analgesia, this is especially true.

It is unlikely that the workload in the delivery room will diminish, and scheduled caesarean sections cannot be delayed. The clinical course and result of a few COVID-19 patients who were already pregnant or were in the peripartum period have been described in the interim. Regarding the treatment of these patients, various suggestions have already been made by national and international organisations. In this manuscript, some of these recommendations will be compiled. By no means should the selection of factors be interpreted as a form of priority. Patients who are pregnant or recently gave birth should follow the basic treatment guidelines for COVID-19 patients as well as the recommendations for action in intensive care therapy. There are, of course, many overlaps in this regard, and only a few things specifically or completely relate to the cohort of obstetric patients. In conclusion, it must be noted that the general treatment guidelines for obstetric anaesthesia are currently valid and also apply to patients who do not have COVID-19. However, when providing anaesthetic care for pregnant patients, special considerations that come from the special requirements on the part of cleanliness and infection protection should be taken into account. These concern both medical elements as well as, to a greater or lesser extent, logistical problems involving distance, personnel, and material resources. Since its initial discovery in Wuhan, China, in December 2019, the coronavirus disease of 2019 has rapidly increased in cases and fatalities. Although there is no evidence on the impact of coronavirus disease 2019 during pregnancy, information on conditions linked to other highly pathogenic coronaviruses, such as severe acute respiratory syndrome and Middle East respiratory syndrome, may offer some insight.

The severity of the illnesses caused by coronaviruses can range from the common cold to fatal respiratory conditions. Currently, travel from mainland China (particularly Hubei Province) or close contact with infected people within 14 days of symptom start are the main epidemiologic risk factors for coronavirus disease 2019. Data point to an incubation time of about 5 days (range, 2-14 days). A third to half of hospitalised patients had an underlying ailment, with an average age of 49 to 56 years. Rarely have reports of children been made. Men made up a larger portion of the hospitalised cases (54-73 percent). Fever, cough, myalgia, headaches, and diarrhoea are frequent symptoms. Chest radiographic imaging abnormalities, lymphopenia, leukopenia, and thrombocytopenia are examples of abnormal testing. Initial reports indicate that between 17 and 29 percent of hospitalised patients experience acute respiratory distress syndrome. The overall case fatality rate appears to be less than 1%, however preliminary statistics suggest that this number may be inflated. All of the 18 pregnancies with coronavirus disease in 2 reports from 2019 were infected in the third trimester, and the clinical symptoms were the same as in non-pregnant persons. Preterm birth and foetal discomfort were occasionally observed. There was no sign of in utero transmission in all but two of the pregnancies, which were delivered via caesarean. There is a lack of information about Middle East respiratory illness and severe acute respiratory syndrome during pregnancy. The largest study of 12 pregnancies showed a case-fatality rate of 25% for severe acute respiratory syndrome. Acute respiratory distress syndrome, disseminated intravascular coagulopathy, renal failure, secondary bacterial pneumonia, and sepsis were among the complications that affected the patients. Compared to non-pregnant women, pregnant women were three times more likely to require mechanical ventilation. Four of seven illnesses in the first trimester resulted in spontaneous abortions. After 24 weeks of pregnancy, four out of five women who had severe acute respiratory syndrome gave birth prematurely.

There were 13 case reports of Middle East respiratory syndrome in pregnant women, of which 2 were asymptomatic and discovered through a contact inquiry; 3 patients (23%) died. Two pregnancies were born prematurely, and two resulted in foetal deaths. In cases of Middle Eastern respiratory syndrome or severe acute respiratory syndrome, there was no sign of foetal transfer. The US Food and Drug Administration has not yet authorised any coronavirus-specific medications. The best setting for coronavirus disease 2019 management is a healthcare centre with close maternal and foetal monitoring because the condition may raise the risk for pregnancy problems. Early isolation, aggressive infection control measures, oxygen therapy, avoiding fluid overload, taking into account empiric antibiotics (secondary to bacterial infection risk), laboratory testing for the virus and coinfection, foetal and uterine contraction monitoring, early mechanical ventilation for progressive respiratory failure, individual delivery planning, and a team-based approach are among the principles of managing coronavirus disease in pregnancy in 2019 details about the coronavirus sickness 2019 is progressing quickly [1-7].

Conflict of Interest

None.

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