

Emergency cesarean section in a COVID-19 patient: A case report

ABSTRACT

Perioperative management of patients with corona virus disease 2019 (COVID-19) can be extremely challenging in order to keep the balance between providing optimal medical care and protecting health-care providers from the risk of infection. We report a 37-year-old COVID-19 patient undergoing an emergency cesarean section.

Key words: Anesthesia; cesarean section; COVID-19

Introduction

The corona virus disease 2019 (COVID-19) outbreak was first reported in Wuhan, China, in late 2019 and subsequently declared by the World Health Organization as a global pandemic.^[1]

COVID-19 manifestations in pregnancy are similar to nonpregnant patients including fever, cough, and shortness of breath but can also be asymptomatic.^[2]

In addition to the special perinatal care of these patients, effective protocols must be placed in order to prevent the spread of the disease to family members and health-care providers. We report the perioperative management of COVID-19 patient undergoing an emergency cesarean section.

Case History


A 37-year-old gravida 4 para 3 (height 149 cm, weight 71 kg), at 39 + 3 weeks of gestation was admitted to the emergency department in labor. She denied any other medical history and has a surgical history of one cesarean section. Her acute respiratory illness score (ARI) was seven, due to a history of direct contact with confirmed COVID-19 patient (her sister). The patient was admitted to an isolation room; nasopharyngeal swab for reverse transcription polymerase chain reaction virus testing (RT-PCR) was taken and infectious disease team was consulted.

A lumbar epidural was inserted by the anesthetist using full personal protective equipment (PPE). Later on, it was decided to take the patient for cesarean section due to failed trial of labor after cesarean.

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The patient was taken to an operating room designated for COVID-19 cases. In the operating room, standard monitors were applied and all the operating room staff used full PPE. An epidural top up of 15 ml of lidocaine 2% with fentanyl 100 µg was given, the operation started, and the baby was delivered successfully.

The patient was recovered in the operating room and then transferred back to her room. In the evening, the RT-PCR test came positive but the patient was still asymptomatic. The anesthesia team was contacted to go to the influenza clinic to have a nasopharyngeal swab for RT-PCR test and to start home isolation.

The following day, the patient was reviewed by obstetric, infectious disease and anesthesia team through video calls and she remained asymptomatic; also the anesthesia team was asymptomatic and their RT-PCR test came negative, so they discontinued home isolation and reported back to work.

A repeated RT-PCR test was done for the patient on postoperative day 5 and it came positive, and patient was still asymptomatic. The infectious disease team recommended that the patient can be discharged to a quarantine arranged by the Ministry of Health (MOH).

After 1 week, the patient was followed up in the family medicine virtual clinic through a phone call in her quarantine and she was stable.

Discussion

Parturients with COVID-19 have a unique disease profile added to the physiologic changes of pregnancy, presenting a diagnostic dilemma; they can be asymptomatic during their labor course and in the postpartum period or give disease symptoms that overlap with labor symptoms like myalgia and diarrhea.^[3,4]

MOH developed an ARI Visual Triage Checklist score that includes both the history of exposure and the clinical signs and symptoms. Patients should be nursed in an isolation room with COVID-19 testing done according to case definition if they score six or more.^[5]

RT-PCR testing improves detection of cases, which will help to prevent virus transmission to the neonate and guide for planning isolation, bed assignment, and proper use of PPE.^[3,6,7]

Close team communication about COVID-19 status of all parturients and anticipating potential obstetric emergencies

and predicting the need for airway instrumentation is crucial. It helps minimizing emergent intubations reducing the health providers' exposure to infection. An early epidural insertion is strongly recommended to avoid general anesthesia if cesarean delivery is decided provided the patient has an acceptable platelet count.^[8,9]

During epidural placement, all health-care providers in the labor room should have contact and droplet precautions (gown, gloves, surgical mask, and eye protection). The patient should wear a surgical mask all the time to limit droplet spread and the number of personnel present should be minimized. Conversion from neuroaxial to general anesthesia during cesarean delivery is always possible and it is advised to upgrade to airborne precautions (fit tested N95 mask or alternative respirator) in the operating room.^[10-13]

MOH guidelines recommend to follow-up asymptomatic health-care workers with protected exposure for 14 days; they can continue their duties with no need for RT-PCR test. These recommendations are general and each institute can follow its infection control team risk assessment.^[5]

Postpartum management includes the management of usual postpartum issues as well as follow-up for any respiratory decompensation using video and phone call visits and consultations.^[3]

Effective management of COVID-19 obstetric patients requires a multidisciplinary team approach consisting of anesthesiologists, obstetricians, neonatologists, critical care, infectious disease, nursing, employee health, environmental health, and telemedicine.^[14]

In summary, we report the successful management of a pregnant patient with COVID-19, who underwent an emergency cesarean section. Proper screening, testing, isolation, PPE use, and team management all participated in good maternal and fetal outcome without compromising hospital staff safety.

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Conflicts of interest

There are no conflicts of interest.

References

1. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, *et al.* A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med* 2020;382:727-33.

2. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, *et al.* Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* (London, England) 2020;395:497-506.
3. Bauer M, Bernstein K, Dinges E, Delgado C, El-Sharawi N, Sultan P, *et al.* Obstetric Anesthesia During the COVID-19 Pandemic. *Anesth Analg* 2020;131:7-15. doi:10.1213/ANE.0000000000004856.
4. Alyamani O, Abushoshah I, Tawfeeq N, Al Dammas F, F A. Considerations and recommendations for obstetric anesthesia care during COVID-19 pandemic-Saudi anesthesia society guidelines. *Saudi J Anesth* 2020;14:359-64.
5. Coronavirus Disease 19 (COVID-19) Guidelines: Ministry of Health; 2020. [Cited 2020 13 May]. Available from: <https://www.moh.gov.sa/Ministry/MediaCenter/Publications/Documents/Coronavirus-Disease-2019-Guidelines-v1.2.pdf>.
6. Wang W, Xu Y, Gao R, Lu R, Han K, Wu G, *et al.* Detection of SARS-CoV-2 in different types of clinical specimens. *JAMA* 2020;323:1843-4.
7. McIntosh Ke. Coronavirus disease 2019 (COVID-19): Epidemiology, virology, clinical features, diagnosis, and prevention 2020 [Cited 2020 May 13]. Available from: <https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-epidemiology-virology-clinical-features-diagnosis-and-prevention>.
8. Bauer ME, Toledano RD, Houle T, Beilin Y, MacEachern M, McCabe M, *et al.* Lumbar neuraxial procedures in thrombocytopenic patients across populations: A systematic review and meta-analysis. *J Clin Anesth* 2020;61:109666.
9. Lie SA, Wong SW, Wong LT, Wong TGL, Chong SY. Practical considerations for performing regional anesthesia: Lessons learned from the COVID-19 pandemic. *Can J Anaesth* 2020;67:885-92.
10. Odor PM, Neun M, Bampoe S, Clark S, Heaton D, Hoogenboom EM, *et al.* Anaesthesia and COVID-19: Infection control. *Br J Anaesth* 2020. doi: 10.1016/j.bja. 2020.03.025.
11. Coronavirus infection and pregnancy Royal College of Obstetricians and Gynaecologists; 2020 [Cited 2020 May 13]. Available from: <https://www.rcog.org.uk/globalassets/documents/guidelines/2020-04-17-coronavirus-covid-19-infection-in-pregnancy.pdf>.
12. American College of Obstetricians and Gynecologists Novel Coronavirus 2019 (COVID-19) Practice Advisory 2020 [Cited 2020 May 13]. Available from: <https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2020/03/novel-coronavirus-2019>.
13. Ministry of Health COVID-19 in Pregnancy Rapid Response Guidelines 2020 [Cited 2020 May 13]. Available from: <https://www.moh.gov.sa/Ministry/MediaCenter/Publications/Documents/COVID-19-IN-PREGNANCY-MOH-Protocol.pdf>.
14. Lee JSE, Goy RWL, Sng BL, Lew E. Considerations and strategies in the organisation of obstetric anaesthesia care during the 2019 COVID-19 outbreak in Singapore. *Int J Obstet Anesth* 2020. doi: 10.1016/j.bja. 2020.03.025.

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