Case report

Emergency Surgery in the Prone Position in a COVID-19 Suspect: A Challenge to the Anesthesiologist

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Abstract

Covid-19 has officially declared a pandemic by the World Health Organization. Various societies around the world have given their recommendation for the safe conduct of anesthesia and surgery during the pandemic, but little has been discussed regarding the various positions of surgery and their implications. We report our experience of managing a COVID suspect patient in an emergency operation theater in a prone position.

Keywords: COVID-19, Emergency Surgery, Prone position, Infection Control

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Introduction

Amid the grim situation caused by an unprecedented outbreak of the COVID-19 pandemic, data from various studies demonstrate that COVID-19 can spread by aerosol, droplets, contact with an infected person, or by performing the aerosol-generating procedure in the operation theater (1). With more than 13 million people infected with COVID-19 worldwide, the number of patient's emergency surgery with difficult and unconventional positioning is going to increase with time.

The European Society of Trauma and Emergency Surgery as well as the Indian Society of Anesthesiologists issued recommendations for conducting emergency surgeries and preventing infection among healthcare workers (2, 3) but had not issued any suggestion about the difficult patient position during surgery and the essential logistics needed for doing such cases. We describe a case of a woman who presented to the hospital with a large diabetic ulcer on the back who was to be operated on in the prone position.

Case Report

A 42-year-old female patient with an ulcer on her back was advised urgent surgery by the surgical team in the prone position. Preanesthetic evaluation revealed that she was diabetic for the last 15years on oral hypoglycemic agents, without any other systemic comorbidities. She had a history of fever two days back with a sore throat. The rapid antigen test for COVID-19 was negative. The nasopharyngeal swab for RT-PCR was taken in the Emergency Department and it was decided to operate her as a COVID suspect with full precaution.

The patient was shifted to the COVID suspect holding area when the operation theatre (OT) was getting ready. After preparation, the patient was shifted to the OT and was planned for intubation on the trolley itself. Rapid sequence intubation was done using Fentanyl, Propofol, succinylcholine, and a Touren video laryngoscope with a disposable blade that was used for tracheal intubation. After inflating the cuff, the anesthesia circuit was attached with two viral filters,

one at the Y junction and another one at the expiratory limb. The tube position was confirmed by capnography without using a Stethoscope. The eyes were protected using single-use disposable goggles. For prone positioning, two bolsters were used for chest and hip while pillows were used for leg and head support along with a gel pad to keep the head in a neutral position. ETT was first clamped before disconnecting the circuit and the patient was fully paralyzed during positioning. The surgery was completed uneventfully. A prophylactic antiemetic was given and the patient was repositioned on the separate trolley. Neuromuscular paralysis was reversed with neostigmine and glycopyrrolate and the patient was extubated in the deeper plane of anesthesia to avoid any coughing.

Discussion

Though the case was done without any complication we faced certain issues that need to be communicated while dealing with these patients. Since the minimum number of support staff is allowed in the COVID OT, we faced problems while positioning the patients. Fogging of video laryngoscope combined with fogging of protective goggles makes even simple tracheal intubation a difficult one. We extubated the patient in a deep plane of anesthesia but it will be dangerous to extubate patients with a difficult airway, morbid obesity, and OSA in a deep plane of anesthesia.

The prone position for the patient in the intensive care unit (ICU) has a different sequence of steps than when it is done in the operation theater (4, 5). In COVID-19 ICU, most of the healthcare staff are well trained in positioning the patient while in OT, prone position for the non-COVID patient may be a routine procedure with less difficulty, as adequate staff and equipment are available; but prone position for the COVID-19 patient in OT has many implications including strict measures to prevent aerosolization of virus-like clamping the endotracheal tube, ensuring adequate muscle relaxation during intubation and changing position, preventing circuit disconnection and coughing at time of extubation (4, 5). In an attempt to reduce the fomite-prone surface in conventional COVID-19 OT, logistics required for prone positioning like bolsters, pillows, goggles, belts, etc. are usually not available. Hence, prior planning and proper communication are required between the anesthesia and surgical team while doing cases demanding sophisticated positioning requirements. This will help to avoid last-minute running between different areas of the OT complex which may act as a medium for the spread of infection.

Conclusion

Our case report highlights that as the COVID-19 cases are increasing day by day, soon we will have to do emergency and trauma cases in a complicated surgical position requiring trained staff and numerous equipment posing a significant risk of infection to anesthetists and complication to the patient. Hence, anesthetists are required to upgrade their knowledge and skill, so that they handle any demanding situation created by the COVID-19 pandemic.

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Conflicts of Interest

The authors declare that there are no conflicts of interest.

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