JARSS 2020;28(3):217-8
doi: 10.5222/jarss.2020.36036

Prone Positioning in Emergency Surgery During COVID-19

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Received: 25 June 2020
Accepted: 29 June 2020
Publication date: 30 July 2020

Cite as: Giri S, Singh A, Ramachandran R. Prone positioning in emergency surgery during COVID-19. JARSS 2020;28(3):217-8.

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Dear Colleague,

Covid-19 has been officially declared as a pandemic by the World health organization. Data from different studies prove that the COVID-19 can be transmitted by contact, droplets, and aerosol which are produced when an infected person coughs, sneezes, talks, or by an aerosol-generating procedure in the operation theatre [1]. With an exponential increase in COVID-19 cases, the number of COVID suspect or positive patients coming for emergency surgeries requiring difficult surgical positioning is going to increase with time. Indian Society of Anaesthesiologists and European Society of Trauma and Emergency Surgery has issued recommendations for preventing virus transmission and for doing trauma as well as emergency surgery in a COVID-19 suspect or confirmed case [2,3]. We would like to bring to the notice that it should also include a discussion about the position of the patient for surgery as well as the essential supplies needed for the positioning. Proning the patients in the operation room (OR) has a different course of action than when done in ICU [4,5]. In a COVID-19 ICU, most of the teams would be well oriented in proning the patients, and the equipment needed would be readily available as it is a frequently done procedure in sick patients. On the other hand, in ORs, while proning a non-COVID patient may be a customary procedure when enough personnel and all the equipment are available freely, doing so in a COVID-19 OR may have specific implications. Since there is limited literature regarding patient safety and prevention of infection while doing surgery in the prone position during COVID-19 pandemic, we would like to share our experience and suggest some recommendations for conducting surgery with the patients in prone position with the multiple aims of ensuring :patient and the healthcare worker safety, aerosol generation prevention and more coordinated OR functioning.

1-During preoxygenation, laryngoscopy, and intubation

a-Adequately pre- oxygenate the patient with tidal volume breathing for 3 minutes

b-Ensure complete muscle paralysis before attempting intubation

c-Ensure that there is no airflow during intubation by completely stopping fresh gas flow from anesthesia workstation, setting APL to zero and avoiding bag-mask ventilation

d-During endotracheal tube placement

1-Intubation may be done on a separate trolley when the patient is supine and subsequently may be positioned on the OT table in the prone position.

2-Intubation to be done by the senior and experienced anesthetist preferably

with a video laryngoscope.
3-We must ensure achievement of complete apnea during endotracheal tube fixation, prompt cuff inflation, and anesthesia circuit attachment
4-Glycopyrrolate (0.2 to 0.4 mg IV) may be given before intubation to reduce secretion and soiling of head-end during prone position

2-During prone positioning
1-Bite block should be inserted to reduce tongue bite
2-Eye protective google should be used to reduce injury to the eye
3-The endotracheal tube should be clamped just before positioning and fresh gas flow should be stopped
4-The positioning of the patient from supine to prone should be achieved with synchronized team effort
5-One must ensure that pressure points are adequately padded, peripheral nerves are adequately protected, the abdomen is free between chest and hip bolsters, the head is in a neutral position and there is no pressure on the eyes.
6-Endotracheal tube clamp should be removed and ventilation should be started quickly

3-During extubation
1-The reverse process should be followed while positioning the patient from prone to supine
2-Lignocaine or dexmedetomidine may be used during extubation to reduce coughing
3-Plastic sheet may be used at the head end to reduce the aerosol spread

Preoperative planning of the patient should, thus, include the discussion about the position of the patient during surgery such that the anesthesia and surgical team can get involved in the positioning before the actual OR procedure and proper equipment and tools can be made available inside the COVID-19 area for the patient.

COVID -19 pandemic is not going to end very soon and gradually we will start performing emergency surgeries in different surgical positions posing a significant risk to anaesthetists as well as to the patients. Therefore it is the responsibility of anaesthetists to upgrade their skills and knowledge according to the ever-changing situation in this COVID-19 pandemic.

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