

Anesthesia Procedure of Emergency Operation for Patients with Suspected or Confirmed COVID-19

[Xianjie Wen](#)

and

[Yiqun Li](#)

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To the Editor:

Since December 2019, COVID-19, a novel coronavirus pneumonia (NCP) has broken out in Wuhan, China [1]. It is transmitted mainly through respiratory droplets, but also through contact. The incubation period is 1–14 days—mostly 3–7 days. The main manifestations are fever, fatigue, and dry cough. The patients with severe disease patients had acute respiratory distress syndrome, sepsis, metabolic acidosis, and coagulation dysfunction develop rapidly [2,3].

Anesthesiologists undertake the work of surgical anesthesia and emergency intubation. They would be in direct contact with patients' airway and are faced with high risk of infection and high work pressure. The standardized procedure of surgical anesthesia for COVID-19 pneumonia patients will help to reduce cross infection in the hospital.

Reexamination of surgical patients in the anesthesiology department

All relevant personnel need continuous training and updating concerning knowledge of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The pre-examination and epidemiologic investigation were performed again for all surgical patients to find the patients with a missed diagnosis. They were asked in detail whether they had traveled to the epidemic area or had a close contact history with persons from the epidemic area within 14 days. All patients are asked to have a temperature reading, laboratory examination, and chest computed tomography scan.

Anesthesia process of patients with suspected or confirmed COVID-19 pneumonia undergoing operation

Elective surgical procedures should be cancelled. Emergency operation should be arranged in a negative pressure operating room. Anesthesiologists should be protected according to the three-level protection requirements. General anesthesia or monitoring anesthesia is adopted in this type of patient. All anesthetic equipment, appliances, and drugs must be specially assigned.

Fast induction of anesthesia with adequate muscle relaxation is recommended to prevent cough. The order of administration should be muscle relaxation drugs, intravenous general anesthetic and opioids to avoid cough. Try to avoid mask pressurization ventilation before the patient loses consciousness. The operating room must be disinfected after the operation. The relevant person contact with SARS-CoV-2 infectious pneumonia should be isolated and observed for 14 days.

Mechanical ventilation strategy

During anesthesia maintenance, a small tidal volume of lung protective ventilation strategy should be adopted to reduce ventilator-related lung injury. Tidal volume is 4–8mL/kg ideal body weight, inspiratory plateau pressure is less than 30cm H₂O, and PEEP level is less than 8cm H₂O and recruitment maneuvers per 30min. Ventilation parameters were adjusted by blood gas analysis and PetCO₂ during the operation.