

Prevention and control measures for SARS-CoV-2 (COVID-19) in surgery

Medidas de prevención y control para SARS-CoV-2 (COVID-19) en cirugía

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Mr. Editor,

In late 2019, an outbreak of pneumonia cases caused by an unknown agent was reported in Wuhan, Hubei province, China. Through sequencing analysis, it was determined that it was a new coronavirus, which at that moment was called 2019-nCoV. On February 11, 2020, the International Committee on Taxonomy of Viruses named it SARS-CoV-2, and the World Health Organization determined that the disease would be called Coronavirus Disease-2019 (COVID-19)¹.

One of the first strategies that have to be designed is the flow of patients who will be admitted to operating rooms to be provided care. According to international recommendations, all selective procedures should be carefully reviewed in order to minimize, postpone or cancel scheduled surgeries or invasive procedures^{2,3}. In this regard, the following decisions were made in our institution:

- To postpone elective surgeries and schedule procedures that are essential according to patients' clinical needs.
- In case elective surgeries are carried out, they will have to be for outpatient management to reduce hospitalization risk.
- Strategically plan the surgeries that might be carried out according patients' and operating room characteristics.

- To ensure ideal conditions for surgical emergency care, as well as the safest conditions for health personnel.

At our hospital, the "Hospital Operational Command" was implemented for taking care of the contingency, with an emphasis on timely evaluation of the needs of the unit's operational area and on generating an early response to reduce risks and adverse events in the care of patients with COVID-19. In this group, we actively participate in coordination with the administrative area, the epidemiology department and other patient care areas, such as the emergency and internal medicine departments and intensive care units. The purpose of this committee is to monitor and carry out a continuous evaluation of the care of patients with COVID-19.

A visit to the surgical area was made to evaluate architectural and operational characteristics, and one of the operating rooms was designated for the care of suspected and confirmed cases of COVID-19. Based on the care necessities of this group of patients, the number of operating rooms can be gradually increased.

For the transfer of patients, the "COVID route" was designed, which is used after "Respiratory code" activation, which indicates when a suspected or confirmed case will be moved, and can derive from

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Table 1. Patient risk classification and personal protective equipment

Risk classification	Type of patient	Personal protective equipment
Low risk	Patients without respiratory symptoms and without contact with people with respiratory symptoms.	– Surgical mask – Eye protection – Standard surgical equipment
Intermediate risk	Patients without respiratory symptoms, with a history of contact with people with respiratory symptoms.	– High-efficiency mask (N95) – PPE for COVID-19 – Standard surgical equipment
High risk	Patients with suspected and/or confirmed COVID-19	– High-efficiency mask (N95) – PPE for COVID-19 – Standard surgical equipment

“COVID areas”, in which respiratory triage, internal medicine hospitalization and intensive care unit are included.

One of the most important decisions that were made was the type of personal protective equipment (PPE) whereby the surgical staff of our unit would be furnished. The PPE for the care of suspected or confirmed COVID-19 patients is the following: surgical scrubs, cap, protective glasses, N95 facemask, double pair of gloves, waterproof gown, and boots. It should be used by the entire surgical team and anesthesia, surgery, orthopedics, and nursing staff^{4,5}.

Feldman et al.⁶ carried out a simulation study in an emergency department to evaluate the PPE used for SARS-CoV-2, and despite having full equipment, they found fluorescent markers on the skin, hair, and uncovered shoes. Although it was a simulation, it offers a perspective on the exposure health personnel might have. To this effect, the scenarios described in table 1 were established. These measures are added to the following critical points: limiting access to operating rooms with a single entrance and circulation within the operating room exclusively for essential personnel for the surgical procedure, and avoiding entrance and exit between surgical rooms. In addition, standard techniques and approaches for the care of surgical patients should be continued with⁵.

Reinforcing the above points, Chu et al.⁷ refer that there is evidence that wearing a surgical mask or high-efficiency mask considerably reduces the risk of contagion, which is why it is a necessary measure within the surgical area regardless of the performed procedure and the area where health personnel is found. In case of surgery of a suspected or confirmed case, the situation will have to change and it will be necessary to have the appropriate PPE for these patients' surgical care.

As in all massive patient care scenarios, some difficulties may arise, such as lack of training in patient care protocol within the surgical area, and in crucial points for putting on and removing PPE, airway adequate management to minimize the risks of exposure and standardization of strategies for different shifts. For this reason, implementation of the “Hospital Operational Command” and constant evaluation of risks by members of the committee is necessary for timely response to these areas of opportunity to be established.

For proper functioning of surgical areas at our hospital units during the COVID-19 pandemic, it is important for this type of evaluations and risk analysis to be established in order for surgical areas' personnel to be timely prepared, working for the safety of the patient and health professionals.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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