EDITORIAL VIEW

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COVID-19 and anesthesiology - An updated professional risk

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ABSTRACT

Many embark on the dream of the white coat often without knowing that the life of a doctor implies great personal costs. Doctors, like other professionals, are at risk inherent in the nature of the work and the environment in which it is carried out. The anesthesiologist is no exception to the rule and is exposed to an unhealthy environment when caring for patients and dedicating themselves to them, they are often exposed to the action of harmful agents. The pandemic imposed by COVID-19 infection takes the anesthesiologist's routine, already aggravated by several occupational factors, to a professional risk that was previously unimaginable. In this sense, efforts to prevent and minimize physical and psychological professional risks should be emphasized.

Key words: Anesthesia; Risks; Infection; Viruses; SARS-CoV-2; COVID-19

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Anesthesiologists provide a daily high-quality professional service with the knowledge and skills necessary to deal with elective and urgent interventions. Anesthesiology as a medical specialty can provide great job satisfaction. However, even within a safe working environment, and however diligent the professional may be, he or she will still be constantly exposed to risks.[1] Ionizing radiation, pollution by residues of anesthetic gases, electrical accidents, noise pollution, infections, abuse and addiction of licit and illicit drugs and psychological aggressions are the main professional risks in the field of anesthesiology.

Patients are the main characters who receive the benefits of medicine, but they are also sometimes the initiators of the risk to the doctor, especially patients without an accurate diagnosis of their condition. In this scenario, the anesthesiologist bears the burden of exposure and contamination to infectious agents. The risk of infections caused by contact with materials contaminated by hepatitis B virus, hepatitis C virus and human immunodeficiency virus, among others, is well recognized.

In the last few months, the increase in the incidence of viral infections caused by a coronavirus began to spread around the world. It was defined as SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2), and in February, the disease was named COVID-19 by the World Health Organization.[2]

As it is a highly contagious disease, treating suspected or infected patients with COVID-19 imposes a new reality, with a high degree of additional risk and the requirement of extended protection never seen before during the anesthetic management of a patient with other infections caused by viruses or prions.[3,4]

In addition to anesthesia for surgical and diagnostic procedures in suspected or confirmed cases of patients with COVID-19, anesthesiologists play an important role in the pandemic, due to their extensive knowledge and experience in cardiopulmonary resuscitation and airway management in cases of emergency tracheal intubation, difficult predicted or unexpected tracheal intubation, ventilatory support and tracheal extubation.

Concerning personal protective equipment (PPE), the pandemic that is currently established globally, has raised issues related to professional risks and safe professional practice with precarious health systems. Not infrequently during routine duties, the professional finds much flawed, inadequate and negligent organizational systems which tend to minimize the professional risks. In a situation of force majeure, society will need a doctor working as long as possible. No matter how dedicated and responsible a doctor may be, it would not make sense to demand the exposure of his own life or physical integrity to danger, without the proper means of protection. It is a doctor's right and an institutional duty, as is the equipment of firefighters and police forces.

During the 2003 SARS outbreak in Toronto, concerns were raised about the high incidence of infections among healthcare professionals, despite apparently adequate personal protective equipment. The analysis of this experience revealed several important lessons.[4] Although the initial focus to protect anesthesiologists or personnel involved in aerosol-generating medical procedures was on the need for stricter PPE, further investigation has shown that in areas such as the emergency department or ICU, where SARS patients were managed, there were preventable situations characterized by multiple opportunities for extensive contamination and exposure of the team before the intubation event.[5,6] Health professionals were exposed to the risk of infection before using PPE. This reflects the importance of screening, early recognition and rapid isolation for suspected cases of infected patients.[7] Another post-SARS investigation interviewing health workers involved in the intubation of SARS patients also highlighted non-compliance or sub-optimal adherence to using of PPE.[8]

SARS-CoV-2 is believed to spread, either from person to person close contact through respiratory droplets containing live viruses, or by exposure to contaminated surfaces. Thus, strict adherence to the use of PPE, including procedure mask, eye protection, gown and gloves, has been highly effective in limiting the transmission of aerosols and contacts.[7,9]

Aerosol generation procedures, such as tracheal intubation, create an increased risk of transmitting infection, particularly because there is a risk of exposure to a high viral load.[10,11] A systematic review of the risk of infection for healthcare professionals classified the airway procedures in decreasing order of risk such as tracheal intubation, front of neck airway (scalpel cricothyroidotomy technique and others), non-invasive ventilation and mask ventilation.[12] Other potentially aerosol-generating procedures include disconnection of ventilation circuits during use, tracheal extubation, cardiopulmonary resuscitation, bronchoscopy, tracheal suction without a closed line system. In addition to aerosols, the transmission of the infection is likely possible by other body fluids.[13]

There is no consensus, but in some places, health professionals who are considered to be at high risk are being excluded. Current evidence would include in this group: older professionals (the mortality curve increases significantly above 60 years of age), heart disease, chronic respiratory disease, diabetes, recent cancer and maybe hypertension. Although there is no clear evidence, it is prudent to also exclude immunosuppressed and pregnant women from the airway treatment of patients with COVID-19.[11]

The main guidelines developed so far are consistent in stating that the doctor who will perform tracheal intubation, will be the most experienced professional. This approach is necessary to optimize tracheal intubation in the first attempt, avoiding ventilation with a mask and bag, and minimizing viral aerosols dispersed in the environment.

Many guidelines published to date have focused on protecting staff from infections and physical damage. There is much less information about the protection of the psychological well-being of professionals. Due to the growing demand for care, work under pressure, many professionals go into early sleep deprivation and exhaustion. Interventions that minimize fatigue, wear and medical errors will improve care, both for the patients with COVID-19 and their healthcare professionals. These conditions lead, as a

snowball effect, to pre-existing risk situations such as anxiety, depression, burnout, self-medication, abuse and dependence on legal and illegal drugs by the anesthesiologists.[1]

All health professionals must work together to adopt effective strategies to promote psychological well-being. Recently, an appropriate correspondence for the editor of the *Canadian Journal of Anaesthesia* has been published, which summarizes these strategies:[14]

1. Sleep sufficiently and efficiently. You need rest to recover from today and prepare for tomorrow.
2. Eat well, at least three times a day. You need fuel for the long and difficult work ahead. Now more than ever, do not let the day's work make you skip a meal.
3. Maintain contact with your colleagues. Working with patients in isolation also isolates their healthcare workers. Share information and personal stories. Care for each other.
4. Share decisions with your colleagues. Use their skill, experience, and support to guide you in the challenging diagnostic and therapeutic decisions you will make.
5. Constantly update your knowledge. Information regarding COVID-19 grows and evolves rapidly. Develop an information-sharing network with your colleagues. Knowing you are providing the best possible care will ease your stress when patients suffer poor outcomes.
6. Maintain contact with your family and friends. They worry about your health as you worry about theirs. Call or video chat regularly to support each other.
7. Make time for your hobbies and daily routine. Listen to music, read a book, exercise. It will lend a sense of normalcy to your day and refresh you for your next shift.
8. Share your emotions. While patient confidentiality limits sharing the details of your work, you can share how this work made you feel. Sharing the emotional burden of COVID-19 care reduces mental and emotional fragility.
9. Self-care did not begin with COVID-19. You may have struggled with your physical and emotional health before the pandemic. Ensure that you continue to care for these pre-existing conditions in addition to the new challenges posed by COVID-19. Seek help from your primary care physician and your departmental leadership.
10. Get help. Reach out to a mental health professional if you are suffering anxiety, depression, symptoms of post-traumatic stress, or suicidal thoughts. Support a colleague in doing the same.

The world faces an unprecedented health threat, work is currently underway to find effective drugs and vaccines, but no positive results have been announced so far. COVID-19 is a highly contagious disease, representing a huge burden for the health systems of the countries and the professionals involved, so we can expect that in this period we will continue to have an increased risk related to work activity.

When offering perioperative treatment to our patients, we must also protect ourselves, to protect other healthcare professionals and the patients. The rapid spread of infection across the globe reveals the need for uniform assistance models in situations of threatening crises, in the face of a highly contagious agent, minimizing physical and psychological professional risks.

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