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REVIEW ARTICLE/BRIEF REVIEW

Ethical concerns for anesthesiologists during an Ebola threat

Préoccupations éthiques des anesthésiologistes pendant une menace d'Ebola

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Abstract

Purpose *The World Health Organization has proclaimed the current Ebola outbreak as a public health emergency. If an outbreak of Ebola should occur in Canada, anesthesiologists and anesthesia departments may be called upon to respond. The purpose of this review is to highlight and discuss potential ethical concepts that may be relevant to anesthesiologists.*

Source *A thorough literature search was conducted using a variety of MEDLINE® sources, and we used Stand on Guard for Thee. Ethical Considerations in Preparedness Planning for Pandemic Influenza, a report by The University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group, as the framework for our review.*

Principal findings *Two groups of ethical concerns were identified. The first group relates to public health ethics, which analyzes the morality of public health interventions, and the second group relates to medical ethics, particularly to "the duty to care". The Canadian Medical Association Code of Ethics is vague in the description of duties of physicians who may respond to high-risk contagious diseases.*

Conclusions *Government, public health authorities, and anesthesia departments need to be prepared to respond to an outbreak of Ebola. Anesthesiologists have a skill that is suited to treat the complications of Ebola virus disease, and in case they are called for duty, anesthesiologists should be aware of the ethical concerns of treating a highly contagious communicable disease.*

Résumé

Objectif *L'Organisation mondiale de la Santé a déclaré que l'éclosion actuelle d'Ebola constituait une urgence en matière de santé publique. S'il y avait une éclosion d'Ebola au Canada, les anesthésiologistes et des départements d'anesthésie pourraient être appelés à intervenir. L'objectif de ce compte rendu est mettre en exergue et de discuter des concepts éthiques potentiels qui pourraient être pertinents aux anesthésiologistes.*

Source *Une recherche rigoureuse a été réalisée dans la littérature en utilisant plusieurs sources MEDLINE®, et nous avons utilisé le rapport intitulé « Stand on Guard for Thee. Ethical Considerations in Preparedness Planning for Pandemic Influenza », publié par le Groupe de travail sur l'influenza pandémique du Centre conjoint de bioéthique de l'Université de Toronto, comme cadre de notre compte rendu.*

Constatations principales *Deux groupes de préoccupations éthiques ont été identifiés. Le premier est lié à l'éthique de la santé publique, qui analyse la moralité des interventions de santé publique, et le second touche à la déontologie médicale, particulièrement au « devoir d'administrer des soins » (« duty of care »). Le Code de déontologie de l'Association médicale canadienne est*

Author contributions *Gregory Klar* wrote the article and reviewed all edits made by the co-author. *Duane J. Funk* edited the original article and revised the paper written by Gregory Klar. *Duane J. Funk* has been active in policy-making for Ebola epidemic preparations at the University of Manitoba.

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vague dans sa description des obligations des médecins devant répondre à des maladies contagieuses à haut risque.

Conclusion *Le gouvernement, les organismes de santé publique et les départements d'anesthésie doivent être prêts à répondre à une éclosion d'Ebola. Les anesthésiologistes ont une compétence qui les place dans une situation privilégiée pour traiter les complications de la fièvre hémorragique d'Ebola, et s'ils étaient appelés à intervenir, ils ont le devoir d'être conscients des enjeux éthiques qui accompagnent le traitement d'une maladie très contagieuse et communicable.*

The world is becoming progressively interconnected; both communicable and non-communicable diseases are subject to the effects of globalization. Anesthesiologists, regardless of their subspecialty interest, may be faced with global health issues. Canadian anesthesia and critical care programs, in conjunction with regional health and Canadian public health authorities, continue preparatory work in case of a Canadian Ebola outbreak. As many ethical questions arise when planning for a pandemic, it is prudent to review and consider these ethical concerns in advance.

Background for Ebola

Ebola, a highly contagious and fatal disease caused by a virus in the *Filoviridae* family, has a current case fatality rate of approximately 50% in West Africa.[1] The current outbreak is largely contained in West Africa; however, other cases have been diagnosed in the USA and Spain. Due to the transmissibility of the disease, healthcare workers who treat patients with Ebola may be at significant risk of contracting the disease.[2] The mainstay of Ebola treatment is supportive in nature, and in endemic areas, it consists predominantly of fluid and electrolyte replacement.

Background for ethical issues during a pandemic

There are two groups of ethical concerns that evolve during a pandemic. The *First group* of ethical concerns relates to the domain of public health ethics, which speaks to moral issues related to the practice of public health and preventive medicine. The *Second group* of ethical concerns relates to medical ethics and the duties of physicians. The University of Toronto Joint Committee for Bioethics provides a framework of ethical concepts to guide moral decision-making.[3] Concepts from this framework are used in the following text to discuss ethical concerns that may apply to Canadian anesthesiologists.

First group

Ethical concerns of government and public health leaders

During an epidemic or pandemic, government and health authorities should be guided by ethical principles to formulate appropriate policies. Healthcare leaders need to ensure that society and healthcare workers are protected from the pathogen in the best way possible.[3] If necessary, government is legally and ethically justified to restrict civil liberties in an attempt to protect the public and control the spread of the communicable disease.[3] The privacy of patients or a group of patients may be marginalized if this will protect the public from harm. Trust and solidarity is advocated between healthcare leaders, healthcare professionals, and patients.[3] Public health policies need to respond with proportionate impact in a timely and equitable manner.[4] Policies need to be transparent and open to the scrutiny of healthcare workers, and healthcare workers need to be informed and updated during the pandemic.[3] Health leaders need to facilitate emergency pandemic medical education to healthcare workers during a pandemic. In a pandemic situation, strained resources need to be allocated in an equitable manner. The World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and the National Collaborating Centre for Health Public Policy (NCCHPP) advocate reciprocity for those who respond to the epidemic and expose themselves to greater risk.[4–6] Decisions need to be based on evidence, principles, and values. However, in the era of evidence-based medicine, public health decisions are not always supported by evidence but by expert opinion. Although the decisions may be potentially contrary to their personal opinion, anesthesia providers are expected to follow and endorse these recommendations.

Obligations of anesthesia departments

Anesthesiologists are well trained to treat the complications of Ebola, and consequently, anesthesia departments may play an important role during an Ebola outbreak.[2] Therefore, anesthesia departments have the duty to provide adequate training and to allocate appropriate resources to minimize the chance of healthcare worker infection. Anesthesiology is heavily reliant on support

staff, including nursing staff, anesthesia assistants, medical device reprocessing technicians, and biotechnical support. Anesthesia support staff are not held accountable to the same Canadian Medical Association (CMA) Code of Ethics as physicians; however, their presence is essential. Nurses follow the Canadian Nurses Association Code of Ethics for Registered Nurses. If an outbreak does occur, resources are further stressed and availability of support staff becomes even more crucial. Therefore, a unified response within the anesthesia department is of outmost importance.[4] Anesthesia departments should become leaders in this domain and become health advocates to ensure preventative and treatment strategies are in place.

Second group

Clinical ethical principles

Autonomy, beneficence, non-maleficence, and justice are four ethical principles originally proposed by Beauchamp and Childress to guide clinicians in providing morally sound decisions.[7,8] These ethical tools are well suited to provide guidance when treating a single patient. Anesthesia providers are familiar with these principles and apply them in their daily practice. However, in a pandemic situation, when the health of the patient, physician, and population overlap, these principles may become increasingly difficult to apply.

Principles of beneficence and non-maleficence can be viewed and argued from different angles.[9] Let us consider a patient suffering from Ebola requiring resuscitation by an anesthesiologist. Treatment may provide benefit and potentially alter the natural progression of the disease (beneficence). In contrast, the anesthesia provider who treats the patient will be exposed to the highly contagious virus and may put surrounding colleagues and patients at risk (maleficence). Furthermore, potentially removing an anesthesia provider from the workforce may be viewed as maleficence to other patients requiring that skill set. Of course, proper prophylaxis may mitigate the risk of transmission to the healthcare worker.

Justice speaks to equality of medical decisions and the fair distribution of resources.[7] In a pandemic situation, the contagion implies a further strain on limited medical resources. Shifting of resources may be required in order to generate a successful impact on the progression and spread of the pandemic. For example, intensive care unit beds, which are often lacking, may be reserved for Ebola patients.

This opens a philosophical debate of priority setting as well as equity and balance of competing duties, which cannot be answered in this paper, if at all. Nevertheless, a word of caution is needed regarding the futility of treatment. It may be tempting to conclude that it is futile to treat a virus with a current high mortality rate, and therefore, it is unjust to allocate resources and put healthcare workers at risk. However, we have limited experience in treating Ebola in Canada, and therefore, we should not comment on the futility of treatment at the present time. Futility of treatment should not be used as a scapegoat to avoid providing care for personal protection.

Autonomy when dealing with a single patient refers to deliberate self-rule.[7] In a pandemic situation, autonomy may be marginalized for the greater good of the population. It is advised to maintain individual autonomy in the best way possible and to weigh in legitimate restrictions carefully. Restrictions need to be proportionate and non-discriminatory for minimal impact on human rights. Simonds and Sokol have suggested that autonomy can be viewed as population autonomy, and autonomous decisions are those made by the stakeholders that respond to the epidemic.[10]

Ethical duties of anesthesia providers

Anesthesiologists have a dual role – to be citizens of the anesthesia professional community and, at the same time, to be citizens of society. The interplay between these two roles may present competing goals.[9] For instance, do contracts with the CMA and the hospital hold anesthesia providers responsible for treating patients when doing so may compromise their own safety and the safety of their loved ones? Do physicians have an ethical stance to refuse treatment for patients who suffer from the highly contagious disease? The ethical dilemma unfolds: Does physician autonomy or the "duty to care" hold priority in a pandemic situation? Historically speaking, the CMA Code of Ethics specified that physicians had the duty to treat; however, such strong wording was later removed from the Canadian code.

> *"When pestilence is upon the people it is their duty (physicians) to continue their work for the alleviation of suffering even at the jeopardy of their lives"* Canadian Medical Association Code of Ethics 1922.[3]

The aftermath of Toronto's severe acute respiratory syndrome (SARS) epidemic stimulated much debate about this topic. Many healthcare professionals accepted the duty to care, and others adopted the libertarian stance and refused to provide care.[3] After the SARS epidemic, the CMA revised their Code of Ethics but unfortunately remained vague in the description of duties during an outbreak of a contagious pathogen.[3,9]

Clarke reviewed the American Medical Association Code of Ethics and identified three ethical arguments for

duty to treat. (1) When the ability to render aid is greater, the obligation to assist is also elevated. (2) By freely joining a profession designed to combat disease, one consents to some standard of risk. (3) Realize that the profession has flourished due to socially negotiated promises to be available in such times of duress.[11] Following this ideology, anesthesia providers who freely join a potentially high-risk specialty accept a heightened risk to themselves. Furthermore, since anesthesia providers are well trained to treat the complications of Ebola, they are held more accountable to respond to the epidemic.[10,11]

Contrary to these strong beliefs, Norman Daniels, a prominent ethicist, considers this notion, i.e., that physicians are held accountable to accept any personal risk, to be unfounded.[11] Daniels argues that physicians do consent to some degree of "standard risk"; however, there are limitations to the degree of risk. Furthermore, Sokol and the WHO support the idea that "duty of care is not limitless", often contrary to common belief.[4,12] Unfortunately, we do not know the risks of treating Ebola in a Canadian context, and therefore, it is difficult to decide whether it falls within a "standard risk". Another opinion held by many ethicists is that physicians are accountable to a "moral minimum" or "minimally decent Samaritan" when there is an urgent need to minimize the suffering of a person.[11,13] "Moral minimum" and "standard risk" are not set norms; they are thresholds that will vary among physicians. A "standard risk" or a "moral minimum" may be discussed among anesthesiologists and within anesthesia departments during pandemic preparation.

Conclusion

We are fortunate in Canada that Ebola is not an epidemic here; rather, it is essentially a threat. Despite some favourable advances in the treatment and containment of the Ebola virus, the WHO emphasizes that Ebola is a "Public Health Emergency of International Concern".[2] Canadian health leaders need to continue to educate and update emergency preparedness. Anesthesia departments should be prepared to respond to the pandemic effectively and in unison. Anesthesiologists should review ethical concerns in advance in case they are called for duty. If an outbreak does occur in Canada, anesthesia providers need to have an adequate skill set and presence of mind to respond safely.

Conflicts of interest None declared.

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