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COVID-19 Ethics: What Interventional Radiologists Need to Know

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ABBREVIATIONS

COVID-19 = 2019 novel coronavirus disease, HIV = human immunodeficiency virus

The intersection of ethics and medicine becomes more apparent during a global pandemic when resources are limited and risks run high. Health care leaders in all fields of medicine are faced with ethical dilemmas that they have never encountered before. They must decide who to risk in the front lines, which patients are more emergent, and where to allocate resources. Individual health care workers must choose where to draw the line between duty and personal safety. These issues lack simple solutions. Now more than ever, it is important for interventional radiologists to carefully evaluate their values and assess how they can collectively make thoughtful ethical decisions that affect millions of lives. Specifically, 4 ethical issues involving interventional radiology (IR) have emerged during the recent 2019 novel coronavirus disease (COVID-19) pandemic: duty to treat, futility, distributive justice, and tribalism.

DUTY TO TREAT

You are on call at the peak of the COVID-19 pandemic, and a patient presents to the emergency department with an aortic dissection. A rapid COVID-19 test is performed, and the patient is positive. You have a newborn at home, and your wife has multiple sclerosis and is receiving immunosuppressant therapy. Your colleague lives alone, and you know they are free tonight. Do you perform the endovascular repair or make a call to your colleague?

When physicians pledge to uphold principles of the Hippocratic oath or Declaration of Geneva, they often feel a commitment to put the well-being of their patients above their own. Beneficence is a foundational pillar of medical ethics, and many claim medical professionals have a moral obligation to prioritize their patient's needs first. However, does this moral obligation uphold in times of a global pandemic when practicing beneficence may in fact end up resulting in self-sacrifice? Some may argue that by graduating from a medical training program, health care professionals have committed to a duty to protect no matter the personal risk. In fact, interventional radiologists have always had some level of personal hazard within IR, including the risks of needle sticks, radiation exposure, and long work hours wearing heavy protective aprons. Others, however, argue that physicians never enlisted or agreed to risk their lives or the lives of family members on behalf of their careers. As modern initiatives have pushed for focus on personal well-being and self-care, interventional radiologists and other health care professionals are tasked with grappling between their sense of duty, their obligation to uphold the principle of beneficence, and their personal safety (1).

Some physicians, such as diagnostic radiologists, whose job description may not frequently involve patient interaction have been called to the front lines across the United States. Are these physicians morally obligated to take on additional risk when direct patient interaction is not often part of their job description? Some argue that specialty choice imposes differing levels of duty to treat (2). Other guidelines, including the American Medical Association Principles of Medical Ethics, maintain that the nature of the medical profession implies "a responsibility to participate in activities contributing to the improvement of the community and the betterment of public health" (3). Nonetheless, other complicating factors arise, including the duty to the physician's family and community. For instance, are physicians who have comorbidities or family members at high risk morally exempt from caring for patients with COVID-19? If the answer is "yes," are physicians without comorbid

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conditions or family members condemned to bear the burden of risk and responsibility of this pandemic?

The debate about duty to treat is not novel. The acquired immunodeficiency syndrome epidemic in the 1980s sparked a similar discussion in the medical community regarding the appropriateness for some physicians and nurses to refuse care for patients with human immunodeficiency virus (HIV) (4). While the general public voiced a strong collective in favor of professional duty, some physicians, including New York surgeon and lawyer, Dr. Joel Zinberg, felt that forcing a physician to treat a patient with HIV was an infringement on individual liberty and autonomy (4). Only when more was learned about the risk of transmission of HIV and treatment strategies did institutional bodies such as the American Medical Association and the American College of Physicians declare more stringent statements condemning the refusal of care to HIV-positive patients (5,6). The 2018 Society of Interventional Radiology (SIR) Code of Ethics matches the American Medical Association statement approving the freedom to choose "whom to serve, with whom to associate and the environment in which to provide medical services … *except* in emergencies" (7). During a pandemic or state of global emergency, it appears that there is general consensus that the medical community has an obligation to treat.

However, it is difficult to claim that professional duty to care for patients is limitless (8). Unique individual circumstances, such as high individual risk of poor outcome on exposure or risk of spread to vulnerable family members, may justify an individual's right to refusal (9). Legally, even during pandemics, clinicians are obligated to treat only once they have entered into a therapeutic relationship (10). Therefore, despite the Code of Ethics, clinicians are not obligated to be martyrs. Given the need to balance commitment to serve patients and taking care of physicians, discussing this openly as a medical practice is recommended, so that more vulnerable members can assume less risky roles while patient care is not compromised.

FUTILITY

A 78-year-old woman with recent stroke and stage VI metastatic small cell lung cancer has been on a ventilator for the last 2 weeks with COVID-19 pneumonia. You are consulted for a gastrostomy tube placement for long-term nutritional support. How do you respond to the team's request?

With a $>$ 88% mortality rate of patients with COVID-19 requiring mechanical ventilation, medical futility emerges as a relevant topic of discussion (11). Futility can be defined in physiologic, quantitative, or qualitative terms and is affected by a person's values, goals, personality, and upbringing (12,13). A clear institutional definition of futility is even more paramount during the COVID-19 pandemic because offering a potentially inappropriate procedure to a patient with unlikely benefits (and potential risks) requires taking away resources from a patient who may benefit from treatment. Furthermore, offering a potentially futile treatment to a COVID-19–positive patient risks additional exposure to the health care team including nurses, technicians, residents, and other support staff.

Determining if a procedure is warranted or inappropriate and futile depends heavily on the patient-physician relationship (12). The patient-physician relationship has been tested throughout the COVID-19 pandemic by necessary safety precautions. Masks pose a physical barrier of separation that makes subtle human interactions more challenging. With restrictions on the number of family members allowed to accompany patients within the hospital, not all stakeholders are able to be involved in important care decisions. Goals of care discussions become more challenging as medical providers are encouraged to spend less time in patient rooms for their own safety. Interventional radiologists in particular are at a greater disadvantage in their role as consultants. Often goals of care discussions have already taken place by referring physicians who have set expectations with family members (12). Moreover, as many affected patients and their families are unprepared to deal with unexpected death, they may not be as well equipped to answer questions regarding their family member's wishes. Families who have had less time to cope with the idea of losing their loved ones may demand heroic but ineffective treatments. To further complicate matters, physicians who provide care that they perceive as futile are at greater risk of developing burnout (14). The responsibility falls on physicians to realize that providing potentially inappropriate procedures does not necessarily provide the best care. Interventional radiologists must balance this understanding with the desires of the individual patient and their responsibility to the public who is contending with limited resources.

DISTRIBUTIVE JUSTICE

You are on call and a 20-year-old man and his 56-year-old father present to the emergency department with the same injuries after a severe car accident. The younger patient is COVID-19 positive, and the older patient is COVID-19 negative. They both need emergent splenic artery embolization, but you have only 1 IR suite and 1 intensive care unit bed available. All the surgeons are busy operating. Who do you take to the IR suite first?

Before the COVID-19 pandemic, health care resources, especially in the United States, were felt to be limitless, and this delusion can lead to ineffective allocation of scarce resources. We have already discussed the inefficient utilization of futile care for a patient, but what about directing care to 2 patients of seemingly similar prognosis? Just as it is necessary for a team to decide which patient to give a ventilator to, IR leaders have been tasked with deciding which patients to perform procedures on and where to send their limited staff. For many hospital centers, port placements and chemotherapy treatments have remained a priority throughout the COVID-19 pandemic, but many patients with severe peripheral arterial disease or abdominal aortic aneurysms at

risk of rupture have been kept waiting as their disease processes continued to evolve. No matter how difficult it is to accept, health care professionals and patients must realize that during a pandemic the right for all patients to receive medically indicated treatment is not always possible. The approach to triage must also shift from caring for highest-acuity patients to treating patients most likely to benefit (14).

Furthermore, intraprocedural decisions during the COVID-19 pandemic, such as performing mechanical thrombectomy instead of overnight lysis to prevent utilization of an intensive care unit bed, may not reflect standard of care. These decisions are not easy and often create significant moral distress for providers who face conflicting ethical principles. To mitigate moral stress, guidelines for triaging patients and disaster-based protocols are necessary to minimize the need for individual moral debates. Moral stress will still arise in times when providers must withhold treatment over the objection of patients and families, but guidelines can alleviate some personal responsibility and blame (15). Training health professionals about public health ethics and disaster response may also help to prevent the stress and burnout that can result from perceived inability to provide adequate care (14). In times of scarcity, moral conflict is bound to arise, and system-wide protocols and disaster training may help to mitigate negative downstream effects.

TRIBALISM

A 25-year-old COVID-19–positive man without comorbidities is found to have acute cholecystitis. You receive a consultation for a cholecystostomy tube placement from the surgical team who elect for a later surgery owing to concerns of exposure of their team. How do you respond?

Tribalism is the natural tendency for like-minded individuals to create social groups and separate themselves from other groups (16). Before the COVID-19 pandemic, tribalistic tendencies may have fostered greater competition between IR and other specialties, but during the pandemic, tribalism has encouraged risk transference between specialties. Interventional radiologists are often sought out by other medical professionals when the extent of treatment options has been reached or as a treatment alternative. As such, it is not surprising that when given the option, departments have chosen to use IR services throughout the COVID-19 pandemic rather than increase risk to their own personnel. For example, interventional radiologists have been redeployed to perform procedures such as central venous line placement in patient rooms in the hospital without any evidence that they are better at performing this procedure at the bedside compared with surgeons or other procedure-oriented services. Furthermore, some surgeons have deferred performing cholecystectomies during the pandemic in favor of referral for cholecystostomy tube placement. This practice not only transfers rather than minimizes risk exposure to hospital staff, but it also may result in suboptimal treatment for patients. One rationale surgeons have provided for deferral of surgery is that patients with COVID-19 have a risk of high morbidity and mortality postoperatively and that this risk is obviated by percutaneous cholecystectomy. However, there is no scientific evidence to support this claim. A recent multisociety surgical position statement cautions succumbing to emergency pressures to change therapeutic management during the COVID-19 pandemic (17). Interventional radiologists must similarly seek only appropriate indications to perform procedures during the pandemic and encourage a team-based approach to patient management with colleagues.

In conclusion, during times of stress as occurs during a pandemic, complex ethical issues surrounding duty to treat, medical futility, resource allocation, and tribalism often come to the surface. This commentary is a survey of common ethical issues IR is currently facing and will continue to face throughout the COVID-19 pandemic. This commentary serves as an introduction to future discussion on ways interventional radiologists can think critically about their collective ethical identities. While it is impossible to predict what ethical challenges will arise tomorrow, interventional radiologists can start the discussions and create the necessary infrastructure within IR to thoughtfully approach nascent ethical issues as they arise and evolve. Collective work has led to the recent creation of applied ethics committees in SIR and the Society of Interventional Oncology, but there is still a need for development of guidelines through empiric research and creation of more forums to discuss these issues at conferences and throughout IR training. Now more than ever, discussions and clear delineation of values must occur about who we are and how we ethically stand as a nation, as a profession, as an institution, and as individuals.

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