Ethical Issues in Organ Transplantation

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Abstract

Organ transplantation is perhaps the only medical venture that creates a situation where the best interests of those in need require direct harm to another human to affect a change in the course of an illness. Most literature on ethics of organ transplantation focuses on specific and practical issues of current interest and addresses the issues with the recipient's well-being prioritized. Therefore, issues such as organ allocation and fairness in the distribution

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of organs tend to flood the literature. Historically, ethical issues were causes of concern for many leading transplant surgeons. Perhaps the most prominent of concerns was the potential for harm to the donor. The potential for harm is inherent in all surgical treatment and in ethical reflection foundational principles such as respect for autonomy, beneficence, nonmaleficence, and justice are and should be resources for ethical action. The donor is a vulnerable human source of the organ necessary for treatment. Effective treatment of the recipient requires an altruistic action on the part of the donor. Therefore, complying with the principle of justice requires more attention to the vulnerable donor. However, the recipient is also a vulnerable human component. Justice for the recipient relates to just allocation of the organ based on medical principles. Characteristics of recipients such as race, gender, and socioeconomic status or cognitive impairment should not have a primary place in the selection of recipients. The ethical treatment of the organ transplant recipient requires a foundational paradigm grounded in justice. Justice for both the donor and the recipient ought to be the grounding principle guiding transplant professionals.

Keywords
Transplantation · Ethics · Justice · Organ donation · Brain death

Introduction

The subject of this chapter is a necessary component to any tome on organ transplantation. However, most of the ethical issues addressed in quotidian reference issues on transplantation review the medical ethics point of view geared toward the practical and not the philosophical. Practical issues are usually centripetal to a system of just allocation of organs. And in our current healthcare environment of scarce financial resources the practical ethical applications appear to overwhelm the literature. However, there are subjects under the rubric of ethical issues that are as important but are often subjugated by the overwhelming attention to organ allocation. The subject of organ allocation comprises more than 70% of the OPTN's webpage on ethical issues in organ transplantation for 2017. It is therefore the subject and purpose of this chapter to address – not only – more philosophical issues but, some of the practical and most of all, the controversial issues related but not directly organ allocation.

Organ transplantation has a unique role in medicine. It is the only medical endeavor that requires the beneficial act of donation to affect the final medical purpose, e.g., the axiom: "the gift of life." Moreover, that single identifiable feature of organ transplantation is the crux of all of its ethical issues for a physician cannot care for a recipient without a presumably altruistic action on the part of a deceased or live donor; human organ transplantation cannot exist without such an act.

The above circumstance encompasses all the principles of bioethics. Those being beneficence, respect for autonomy, nonmaleficence, and justice. However, most ethical debates arising from conflicts applicable to the principle of justice revolve around organ allocation. But in this chapter the subject will be less emphasized. Other important ethical issues will be addressed.

Foundational Principles

Modern bioethics, or more applicable to transplantation, healthcare ethics, is grounded on four foundational principles: respect for autonomy, beneficence, nonmaleficence, and Justice. Each has an important position in the field of organ transplantation. Throughout the chapter there will be associations of the principles with current important issues.

Respect for Autonomy

In our current healthcare environment, respect for autonomy has developed into the core principle guiding medicine. According to Beauchamp and Childress (B&C) (2013), autonomy is primarily self-rule. However, the principle that is presented in bioethics is "respect for autonomy." The latter requires three conditions: intention, understanding, and noncontrol. The will governs intention. Respect for autonomy requires the healthcare provider to understand the agent (patient, family, etc.) is acting from his will. That exercise of will is based on the Kantian concept of autonomy and is based on reason. According to Kant, a person without the ability to reason is not acting autonomously (Johnson and Cureton 2017, Chap. 10).

The above concept has particular implications in transplantation *vis a vis* the donor, recipient, and the physician. The donor is an individual autonomous person, but is she able to exercise her will? The live donor does, yet the deceased donor cannot exercise her will concurrently with the event of donation, but can make her will known in the form of advance directive, e.g., donor card or living will. If the latter are not present, the exercise of the will becomes more complicated as the family or loved ones take on the role of intentionality. The latter situation creates ample fodder of ethical reflection particularly on the concept of informed consent. Informed consent will be addressed later in the section of live donation.

Beneficence

The principle of beneficence is the quintessential principle guiding the telos of all healthcare endeavors. It is the principle guiding the goal of all healthcare providers to act in the best interest of the patient. Some authors have posited that beneficence is the only foundational principle in medical ethics (Pellegrino 1994). However, Pellegrino's conceptualization of beneficences as a sole principle creates a conflicting paradigm in organ transplantation. The transplant physician/surgeon has often two patients with conflicting benefits. That is not to say that donors would perceive a risk of their life for an altruistic purpose, a benefit. But, is the latter perception one that transfers to the physician? How can the physician have two patients, one has to be harmed (donor) to benefit the other (recipient)? Also, the declaration of brain death for the purpose of organ transplantation is another potential conflict of beneficence. Are we harming the donor for a "greater purpose," e.g., the recipient? The resolution to the previous questions is beyond the scope of this chapter, but the grounding concept is one of conflicting interests/principles. The latter concept begs the question: When the proverbial push comes to shove. What is the ethical physician to do. Later in the chapter these controversial issues will be addressed (Pellegrino and Thomasma 1988).

Nonmaleficence

Nonmaleficence is another foundational concept in health care. The proper telos of any medical intervention being invasive or not is the mitigation or elimination of harm, e.g., the aphorism*: primun non nocere* (first do no harm). Yet, treatment of a disease frequently requires actions which initially cause injury and have significant risk for harm including death. But, outside the realm of transplantation the consequences of the latter endeavors are foreseen and the intention is toward the eventual change in the course of disease or alleviation of suffering for the patient. Contrarily, in transplantation, there are two patients affected by treatment. Arguably, the physician harms the donor for the benefit of the recipient. That is not to say the recipient of the organ does not also incur risk, but the risk is for the self and not another. However, the donors risk is not incurred for self but for the other. Again, a conflict worthy of much ethical reflection (Schoene-Seifert 2014).

Justice

The dominant and most important principle for medical ethics is justice. There are multiple theories of justice identified by moral scholars. The two most dominant theories applicable to transplantation are the deontological and utilitarian theories. Deontology is grounded in duties and obligations. Justice is served based on keeping with prescribed duties toward the patient. Consequences or circumstances may or may not determine the just end of an action. However, the utilitarian theory's foundation is exemplified in the statement: "the end justifies the means."

It is the utilitarian theory that is applied to a greater extent in healthcare today. In organ transplantation, concepts of justice for the recipient are pervasive in media, literature; a fact that brings to the forefront another theory of justice, distributive justice. McCormick (2010) notes that distributive justice applies to situations where the means of treatment is significantly less than the need. The disparity between the number of recipients and donors demands the application of distributive justice. But, what is justice for the donor?

The Donor

Most of the ethical reflection surrounding the transplant process focuses on the donor. However, it is interesting that the focus of practical reflection tends to be on the recipient. It would be accurate to say that it is the recipient that is the goal of therapy. Therefore, financial, legal, political, human resources, etc. are directed toward the benefit of the recipient. Some may say that such endeavors are correctly applied toward the object of treatment, i.e., the recipient. However, to complete the ethical argument requires a philosophical analysis that includes the donor; for it is the donor that provides the means of therapy. It is appropriate that we begin the ethical issues with the donor. As this is chapter on ethics, empiric science will not be addressed unless it specifically pertains to an ethical issue.

Live Donation

Currently there are five solid organs amenable to live donation: kidney, liver, pancreas, lung, and intestine (see chapters ▶ “Live Donor Nephrectomy,” ▶ “Living Donor Evaluation and Selection,” ▶ “Medical Complications After Kidney Transplantation: Early”). All of them involve significant risk to the donor and notably no donor derives a medical benefit from the procurement. The latter ethical issue was noted even in the beginning of transplantation. Ramsey (1970) provides perhaps the most extensive early assessments on the morality of live donation. Quoting Francis Moore: “Physicians are exceedingly sensitive that for the first time in the history of medicine a procedure is being adopted in which a perfectly healthy person is injured permanently in order to improve the well-being of another” (Ramsey 1970, pp. 173, 197). Ramsey thereby illustrated the ethical dilemma of live donation even in its nascent stages.

The ethical principles governing live organ donation are similar if not identical to principles guiding human experimentation. Particularly human experimentation where the risk of the subject is incurred either for the benefit of humanity or for the benefit of a specific group and not the recipient herself. Therefore, two other principles ought to guide physicians: Respect for persons and informed consent. Informed consent has four modifying components: Voluntariness or freedom from coercion, capacity or the ability to reason, disclosure and understanding all lead to the final component, consent (Beauchamp and Childress 2013, Chap. 4).

Respect for persons includes the consideration of the vulnerability of the patient. In the case of live donation, critics emphasize the possibility of violation of the principle of respect for persons when the emotional attachments to the recipient influences – some would say – coerce the decision to donate as in parent to child donation, donation between married couples, or even sibling donation. The latter situations can also be perceived as violation of one of the major components of informed consent, voluntariness. In the case of live donation, the justification has always been under the principle of proportionality Hermeren (2012). Jonsen (1998) analyzes the opinions of early bioethicists as to the principle of proportionality and advocates that the harm to the donor must be outweighed by the benefit to the recipient (Jonsen 1998, p. 203). The principle of proportionality applied to live donation is defined as the choice between two competing moral values; in the case of live donation, causing harm to one to help another. The Catholic ethical tradition describes the principle of “double effect” where an immoral action is taken to prevent a greater immorality from taking place. While the latter and former definitions do ethically validate live donation in principle, factors such as coercion and vulnerability have only been analyzed through the informed consent process. The latter ethical quandaries have culminated in our current OPTN guideline/rules for the evaluation of living donors which include stipulations for independent advocacy, analysis, and verification of voluntariness. The entry "▶ The Finance of Kidney Transplantation" addresses the legal and regulatory aspects of a kidney transplant program. However, historically ethical reflection on live donation has not addressed that the current transplantation paradigm's zeal for rescue of the recipient diminishes the importance on the welfare of the donor by a form of "social" coercion. Author's such as Lewis et al. (2017) note the portrayal of organ donation in the media as a form of the latter. Another form of social coercion is how society tends to elevate the live donor to a "hero" level. It is not a conscious elevation but as Chapple (2010) demonstrates, the concept of "rescue" is ingrained in the American culture and those who ascribe to less glamorous endeavors or eschew it individually are seen as less. Chapple (2010) does not specifically address organ transplantation, but her rescue paradigm assertion is easily applied to transplantation. Therefore, while some may view rescuing the recipient as a positive social endeavor, vulnerable persons perceive negative social consequences from not donating. The latter is illustrative of coercion. Societal pressure in favor of recipient rescue is such that any information given to the public that is perceived to lessen live donation is modified, parsed, or even suppressed. Example is subdued public reporting of live kidney donor deaths living kidney donor death and mortality (2017). Fung (2010) stated at the 2010 US Department of Health and Human Services Advisory Committee on Organ Transplantation (ACOT) referring to four live kidney donor deaths in that year: "The fact that there were four kidney deaths with almost no publicity is. . .problematic." Indeed, the subject requires more ethical reflection and definitely more research.

Deceased Donors

The first successful transplantation was a renal transplant performed in 1954 by Murray et al. (1955). Today most transplants performed are from donors declared deceased. In 2015, approximately 81% of the transplants (24,982) involved organs from deceased donors. Deceased donors are brain dead or deceased donors after cardiac death (DCD). DCD are further divided into controlled or uncontrolled. A new and controversial classification is DCD by euthanasia. The three situations that lead to deceased donation reveal issues ripe for ethical analysis and reflection. Three issues will be addressed: declaration of brain death, donation after cardiac death, and euthanasia or suicide by organ donation.

Brain Death

The concept of "Brain Death" did not develop to accommodate, benefit, or considering organ transplantation. Factually, the concept developed as an epiphenomenon and today is almost exclusively under the rubric of organ donation for the benefit of transplantation. This chapter does not intend to relate an exhaustive analysis of brain death; therefore, the subject will be limited only to salient and arguably controversial issues.

Classically, the declaration of death involved the observation of cessation of heartbeat and respiration (Machado 2007, p. 1). In the late 1950s, cessation of circulation to the brain was identified as a cause of apnea and elimination of reflexes. Later, Mollaret and Goulon (1959) coined the term *coma d'epasse'* for an irreversible state of coma and apnea. However, it was Wertheimer's group (72, 73) that described "the death of the nervous system." The group went further to propose stopping ventilation if death of the nervous system was diagnosed clinically and by "the repeatedly verified absence of electroencephalographic (EEG) activity both in the cortex and in the diencephalon, and if resuscitative efforts have been given enough time, 18–24 h." (Wertheimer et al. 1959). Finally, the seminal event that created the currently established concept of brain death was the publication of the "Harvard" criteria in 1968 (Ad Hoc Committee of the Harvard Medical School to Examine the definition of Brain Death [Harvard Committee] 1968).

Still the actual cause of cessation of cerebral activity was not identified as termination – regardless of cause – of circulation to the brain. Crawfoord (1939) stated that

> death was due to "cessation of blood flow to the brain and nothing else." The latter set the grounding concept for today's diagnosis of brain death. Today, clinical diagnosis of brain death is directed almost exclusively at the purpose of determining cessation of blood flow. However, objective maneuvers such as angiography, nuclear medicine blood flow determinations, and positron emission tomography (PET) are seldom used particularly in adult patients. Instead, and arguably due to lack of resources, the less objective and more clinical criteria have been used. The generally accepted clinical criteria stated in the American Academy of Neurology (AAN) core guidelines are shown below. (Wijsdicks et al. 2010, p. 1917)

Clinical Criteria (AAN)

1. Coma, irreversible, and cause known
2. Neuroimaging explains coma
3. CNS depressant drug effect absent (if indicated toxicology screen; if barbiturates given, serum level,10 mcg/ml)
4. No evidence of residual paralytics (electrical stimulation if paralytics used)
5. Absence of severe acid-base, electrolyte, endocrine abnormality
6. Normothermia or mild hypothermia (core temperature >36 °C)
7. Systolic blood pressure ≥ 100 mm Hg
8. No spontaneous respirations
9. Pupils nonreactive to bright light
10. Corneal reflex absent
11. Oculocephalic reflex absent (tested only if C-spine integrity ensured)
12. Oculovestibular reflex absent
13. No facial movements to noxious stimuli at supraorbital nerve or temporomandibular joint
14. Cough reflex absent to tracheal suctioning
15. Absence of motor response to noxious stimuli in all four limbs (spinally mediated reflexes permissible)
16. **Apnea testing**:
    (a) Hemodynamic stability
    (b) Adjust ventilator to provide normocarbia (Pco_2 35–45 mmHg)
    (c) Pre-oxygenate patient at 100% for 10 min to $PaO_2 \geq 200$ mmHg
    (d) Patient well oxygenated with PEEP of 5 or $<$
    (e) Place on T-Piece or tracheal O_2 at 6 L/min and CPAP of 10 mmHg.
    (f) Discontinue ventilator and insure spontaneous respirations are absent
    (g) Draw arterial blood gas at 8–10 min and assure PCO_2 is ≥ 60 mmHg and no spontaneous respirations and reconnect ventilator

The clinical criteria are extensive and meticulous; however, they are based on levels of evidence considered lower according to evidence-based standards. Admittedly, further research is necessary for the universal acceptance of standards. However, for ethical analysis specifically declaring a human being a cadaver perhaps more objective criterion should be used.

The ethical implications of brain death were eloquently described by Starzl in his comments at the Ciba Symposium of 1966, the first international symposium on ethical and legal aspects of organ transplantation. Dr. Starzl commented: "I doubt if any of the members of our transplantation team could accept a person as being dead as long as there was a heartbeat. We have been discussing this practice in relation to renal homograft. Here, a mistake in evaluation of the 'living cadaver' might not necessarily lead to an avoidable death since one kidney could be left. But what if the liver or heart were removed? Would any physician be willing to remove an unpaired vital organ before circulation had stopped?" Dr. Starzl's comments were prophetic and identified the moral suspicions of the transplant community toward the concept of brain death. His comments also echo a subconscious concern of all transplant surgeons when procuring organs from a brain-dead donor. It is clear from Dr. Starzl's reflections that there is a possibility of causing death by organ procurement. Despite the evolution of brain death from a questionable moral entity to an accepted criterion of death, maintaining ethical consistency and true adherence to the "Dead Donor" rule (the concept that patients undergoing donation of a "life sustaining organs be declared dead) would require all possible clinical criteria in conjunction with objective tests confirming the diagnosis of brain death to virtual certainty. The modifier "virtual" used as the only true proof of death is putrefaction.

Donation After Cardiac Death (DCD)

Formerly called non-heart beating donation (DCD) has less scrutinized ethical issues than brain death or live donation but the concept is not without controversy. Two ethical issues come to the forefront in DCD. First is the decision to end life support. Second is the process and declaration of death before organ donation.

The grounding ethical problem in the first situation is conflict of interest. Conflict of interest is defined as: "A situation that has the potential to undermine the impartiality of a person because of the possibility of a clash between the person's self-interest and professional interest or public interest" (Business Dictionary.com n.d., p. 1). Both the transplant team and the organ procurement organization have self-interest in the procurement of the organs from the person whose life support is terminated. In our society's recipient-centered transplant environment, the impetus to rescue the recipient is inherent in the philosophy of the transplant team and the organ procurement organization. The possibility of financial incentives will not be mentioned as it is beyond the scope of this chapter. However, the total separation of any relationship of transplant professionals from the physicians terminating life support is necessary for elimination of conflict of interest.

The second situation animates the moral pitfall of the transplant surgeon or team actually hastening or causing the death of the donor for interests other than the donor's. Some may argue that the donor's wishes are respected by terminating life support and organ donation and subsequently any maneuver used to preserve the organs prior to death including during the death process is consistent with respect for the donor's autonomy. Organ donation advocates posit that the surrogate or donors informed consent justifies almost any intervention on either brain dead or DCD during the terminal process. Opponents of any hastening or intervention of the donor's death for procurement purposes cite violation of the donor's dignity and respect as a person. Consider the case of Dr. Hootan Roozrokh who according to Chawkins (2008) was charged with felony adult abuse. Investigational documents indicate it was Dr. Roozrokh who gave the order to the respiratory therapist to remove the donor from life support. The lack of a specific DCD protocol in addition to ethical breaches leads to the physician's arrest.

In 1992, the University of Pittsburgh was one of the first institutions to develop a protocol for retrieving organs from non-heart beating donors. An ad hoc committee excluding organ procurement representatives and transplant service members was formed to develop the protocol. The exclusion was to prevent conflicts of interest. The Pittsburgh protocol is interestingly in contrast to the current UNOS (United Network of Organ Sharing) and the OPTN (Organ Procurement and Transplantation Network) critical pathways which essentially require the OPO staff to be involved in pre-, during, and post-procurement efforts. Proponents of OPO staff involvement assert the OPO's expertise in organ donation and cite their success in obtaining consent for donation. However, the ethical issue is not one of success in procuring the organs. It is one of procuring them ethically or not at all. Only a recipient centric system would exhort the former.

Euthanasia or Assisted Suicide by Organ Donation

Serial review of ICU deaths found that from the 1980s to the 1990s, the percentage of ICU deaths that occurred following withdrawal or withholding of life support increased from approximately 50% to approximately 90%. These statistics remain approximately the same today (Prendergast and Luce 1997).

The viability of solid organs is almost universally compromised in cases of organ donation after cardiac death. The "Dead donor" rule mandates declaration of death before organ procurement. Traditionally, the 5-min rule has been followed in cases of DCD. However, heart, lung, and liver donation and to a lesser extent kidney has been precarious due to tissue damage by warm ischemia during the mandate 5 min. Some have proposed forgoing the dead donor rule in cases where the patient or surrogate has decided to terminate life support with the purpose of ending their life. In such cases, the organs are procured and death is caused by the procedure of organ donation, e.g., the patient is euthanized for the purpose of procuring the organs. The transplant team becomes an assistant to the patient's wish to terminate their life.

Truog (2013) and others have argued for the suspension of the "Dead Donor Rule" limited to individuals with no possibility of regaining consciousness such as anencephalic infants and patients in a permanent vegetative state. However, Wilkinson and Savulescu (2012) has gone further and proposed a protocol for organ donation euthanasia (ODE) for the United Kingdom to procure a fraction of brain dead (BD) and DCD. In the United Kingdom, Wilkinson and Savulescu (2012) estimates a fraction of approximately 600 donors could potentially increase the donor supply. However, admittedly the supply of organs would have little if any impact on the number of recipients treated.

The above concept is governed under the principle of medical utilitarianism, i.e., the greatest good for the greatest benefit and foregoing the moral implications for the means for the end. The question is, whose benefit; euthanasia by organ donation is again a creation of a recipient centric system. It can be posited that apparent conflicts of interest are numerous and impossible to overcome in a system with such asymmetric focus. The scene of a transplant surgeon ending the life of a patient in the operating room is counter the any concept of a virtuous physician. Such a drastic violation of a long-standing moral framework such as the dead donor rule for a small benefit is counter to the fundamental ethical concepts grounding organ transplantation.

The Recipient

Several ethical controversies exist that are grounded on the recipient side: racial disparities, discrimination based on diagnosis, and regional disparities in organ allocation. The controversies are under the bioethical principal of justice, particularly social justice.

The current system of organ allocation asserts its position of fairness and justice. Organs are allocated based on a system grounded on just distribution. However, gaining access to the organ has not been a priority of the system. In a recipient-centered system, the donor and the organ are viewed as a commodity used to treat the recipient. The disparity between the number of recipients and donors creates a situation ripe for studying and enacting distributive justice. Moreover, the transplant community had designated that organs should be allocated to the most appropriate recipient. Ethical reflection requires analysis of the choice of said recipient as worthy of the organ. In this section, ethical issues relating to the recipient will be addressed.

Racial Disparities in Recipient Selection for Organ Transplants

Kasiske et al. (1991) identified racial disparities in the likelihood of undergoing kidney transplants. The etiology of the disparity was not known at the time; however, the system of allocation based on ABO and mean histocompatibility antigens (MHC) favoring the non-African American was posited. Also, diminished survival statistics, lack of healthcare coverage, and cultural barriers were also identified as potential causes. Arriola (2017) describes eight steps involved in obtaining a kidney transplant. At each of the steps she identified potential sources of racism. The ethical question is whether disparities are due to racism, structural violence, or a complex array of biologic, genetic, psychosocial, and cultural factors. The transplant system is centered on providing the most just distribution of the donor for the recipient on the list. There is, however, little attention paid to justice of access to the "list" itself. The transplantation literature identified by Arriola (2017) is replete with data identifying racial disparities. However, recommendations for the elimination of disparities are not attended to nor is research directed at them. Recommendations for mitigation of racism include primarily acknowledgment of the existence of structural racism. Education on navigating the system and expanded research aimed at raising consciousness of and elimination of structural racism require self-identification by the transplant community as requiring a fundamental change in behavior and methods. Arriola (2017) eloquently lists potential sources of racism and recommends actions for elimination of said sources (Arriola 2017, Table 1). The latter is the path to applying the principle of justice to transplantation.

Discrimination-Based Diagnoses or Conditions Other than Medical

Historically, the transplantation community has determined patients with certain diagnoses whether causative or allied to their disease as criteria for exclusion from a transplant. The justifications for exclusion have been centered at the risk for graft failure or recipient mortality. Causes cited have been: patient noncompliance with immunosuppressive regimens or low allograft or patient survival for the specified conditions. Excluding patients based on criteria such as the latter is supported by a utilitarian ethic aimed at complying with the dictum of fair distribution for the greatest benefit.

Medical contraindications such as disseminated malignancy, or inability to survive the transplant operation itself have been supported by empirical evidence. However, more subjective contraindications such as lack of social capabilities, the presence of socially undesirable habits such as smoking or diminished intellectual capacity have been a source of ethical controversy.

Senderovich (2016) questioned the ethics of the transplant community's exclusion of smokers and alcoholics and cites the lack of randomized trials supporting the transplant community's assertion that patients that smoke (in the case of renal transplantation) and patients who use alcohol have an increased mortality or decrease allograft survival. The ethical question is whether transplant programs should decide the indication for a transplant based on a social desirability. The World Health Organization (WHO) consensus states: "donated organs should be made available to patients on the basis of medical need and not on the basis of financial or other consideration." It is these other considerations that the WHO does not define. Clearly, discrimination based on behavior alone is not justified. Examples of exclusions based on socially undesirable habits are the exclusion of smokers from transplant lists. Despite the lack of literature supporting exclusion of recipients for smoking in lung transplantation, most programs exclude active smokers. Diamond et al. (2013) reviewed causes of primary graft dysfunction in lung transplantation. Donor smoking history was the only "social" factor that contributed to graft dysfunction. Recipient smoking history was not mentioned as a cause. However, virtually all lung transplant programs exclude candidates who actively smoke. It is understood that patient adherence to specified recommendations (formerly compliance) is an important factor in long-term graft and patient survival. But, should patients be excluded from lifesaving transplants for behavior not empirically proven to be detrimental to survival.

Another controversial nonmedical criterion used for exclusion from transplant lists is cognitive disability. Richards (2009) showed the significant variability in who a transplant program will place on the list. Among the exclusionary criteria for most programs was cognitive disability. However, Ohta (2005), Weightman (2016), and others have shown no difference in allograft nor patient survival for children with intellectual disabilities in renal and heart transplants. Unfortunately, this is yet another biased and subjective indication for exclusion of "undesirable" patients from transplant lists.

Geographic variation in listing and transplantation has long been a subject of controversy and also requiring ethical analysis under the principles of beneficence and justice. It has been generally perceived by the transplant community that regional prioritization for allocation of organs was due to donor factors such as ischemia time. The latter may apply to currently transplantable thoracic organs where ischemia times are crucial; liver and kidney transplantation do not suffer from the same liability. Yeh et al. (2011) had identified – not only – geographic variation but increase in mortality of and the transplantation of patients who may not benefit from a liver transplant, resulting in the equivalent of organ wastage. Deshpande (2017) analyzed the current system of liver allocation and found the arbitrary system of geographic distribution to be inconsistent with just allocation. Patients with resources can list at multiple centers which, due to geographic variation in number of donors available to the centers, have a lower waiting time and lower mortality than other centers. “Current liver allocation policy favors the wealthy” (Deshpande et al. 2017, p. 165). The latter situation is inconsistent with appropriate stewardship of a scarce resource and further illustrates the multiple areas in transplantation where subtle discriminatory policies yield less benefit to patients.

Conclusion

As stated at the beginning of this chapter, the most important issue necessary of ethical reflection is the great disparity between the number of organs and the number of recipients. In 2017, over 120,000 recipients wait for a transplant. Society, government, the healthcare environment, the transplant community, transplant centers, and finally individual clinician, all have one goal in common: providing care in the best interest of those afflicted. In transplantation, justice is the overarching principle. Unfortunately, due to the very unique situation of human transplantation, the resource (organ) is a scarce gift and requires a concerted and ethical application of distributive justice. The transplant community since inception has functioned under several self-imposed dictums aimed at maintaining the ethical standards of medicine. Among these dictums are: The Dead Donor Rule (donors), Respect of informed consent and freedom from coercion (donors), elimination of nonmedical exclusionary criteria for transplantation (race, religion or culture), and maximization of survival. These self-imposed mandates are not always followed for many reasons. However, it is the role of the individual healthcare provider to identify and mitigate any subversion of our self-imposed ethical mandates. Only through continued education and ethical reflection can such a goal be achieved.

Cross-References

- ▶ Live Donor Nephrectomy
- ▶ Living Donor Evaluation and Selection
- ▶ Medical Complications After Kidney Transplantation: Early
- ▶ The Finance of Kidney Transplantation

References

Ad Hoc Committee of the Harvard Medical School to Examine the definition of Brain Death (1968) A definition of irreversible coma. Report of the Ad Hoc Committee of the Harvard Medical school to examine the definition of brain death. JAMA 205:337–340

Arriola KJ (2017) Race, racism and access to renal transplantation among African Americans. JHCPU 28(1):30–45. https://doi.org/10.1353/hpu.2017.0005

Beauchamp TL, Childress JF (2013) Principles of biomedical ethics, 7th edn. Oxford University Press, New York

Business Dictionary.com (n.d.) http://www.businessdictionary.com/definition/conflict-of-interest.html

Chapple HS (2010) No place for dying. Hospitals and the ideology of rescue. Left Coast Press, Walnut Creek

Chawkins S (2008, December 19) Transplant surgeon acquitted. Los Angeles Times, pp 1, 2. Retrieved from http://articles.latimes.com/2008/dec/19/local/me-transplant19

Crawfoord C (1939) The cause of death by obstructing pulmonary embolism. Nord Med 2:1043–1044

Deshpande R, Hirose R, Mulligan D (2017) Liver allocation and distribution: time for a change. Curr Opin Transpl 22(2):162–168. https://doi.org/10.1097/MOT.0000000000000397

Diamond J, Lee J, Kawut S (2013) Clinical risk factors for primary graft dysfunction after lung transplantation. Am J Respir Crit Care Med 187(5):527. https://doi.org/10.1164/rccm.201210-1865OC

Fung J (2010, August) Advisory Committee on organ transplantation. In: Scantelbury V (Chair) Advisory Committee on organ transplantation. Symposium conducted at the United States Department of Health and Human

Services, Bethesda. Retrieved from https://organdonor.gov/about-dot/acot/acotaug2010notes.html

Hermeren G (2012) The principle of proportionality revisited: interpretations and applications. Med Health Care Philos 15(4):373–382. https://doi.org/10.1007/s11019-011-9360-x

Johnson R, Cureton A (2017) Kant's moral philosophy. Retrieved from https://plato.stanford.edu/archives/spr2017/entries/kant-moral/

Jonsen A (1998) The birth of bioethics. Oxford University Press, New York

Kasiske BL, Neylan JF III, Riggio RR (1991) The effect of race on access and outcome in transplantation. NEJM 324(5):302–307. https://doi.org/10.1056/NEJM199101313240505

Lewis A, Weaver J, Kaplan A (2017) Portrayal of brain death in film and television. Am J Transplant 17:761–769. https://doi.org/10.1111/ajt.14016

Living kidney donor death/mortality (2017) Retrieved from http://www.livingdonor101.com/kidney-donor-death.shtml

Machado C (2007) Brain death, a reappraisal. Springer, NY, New York

McCormick PT (2010) Whose justice? An examination of nine models of justice. J Relig Spirit Soc Work 22(2):7–25. https://doi.org/10.1080/15426432.2003. 9960338

Mollaret P, Goulon M (1959) Le coma dépassé (mémoire préliminaire). Rev Neurol (Paris). 101:3–15

Murray JE, Merrill JP, Harrison JH (1955) Renal homotransplantations in identical twins. J Am Coll Surg 6:432

Ohta T, Mohtoyama O, Takahashi K, Hattori M, Shishido S, Wada N (2006) Kidney transplantation in pediatric recipients with mental retardation: clinical results of a multicenter experience in Japan. Journal of Kidney Disease 47, 518–527.

OPTN (Organ Procurement and Transplantation Network) Policies [Policies] (2017) Retrieved from U.S. Department of Health and Human services: https://optn.transplant.hrsa.gov/media/1200/optn_policies.pdf#nameddest=Policy_14

Pellegrino E (1994) The four principles and the doctor-patient relationship: the need for a better linkage. In: Gillon R (ed) Principles of healthcare ethics, 1st edn. Wiley, London

Pellegrino E, Thomasma D (1988) For the patient's good: the restoration of beneficence in health care. Oxford University Press, New York

Prendergast TJ, Luce JM (1997) Increasing incidence of withholding and withdrawal of life support from the critically ill. Am J Respir Crit Care 155: 15–20

Richards CT, Crawley LM, Magnus D (2009) Use of neurodevelopmental delay in pediatric solid organ transplant listing decisions: Inconsistencies in standards across major pediatric transplant centers. Pediatric Transplantation 13(7), 843–850. https://doi.org/10.1111/j.1399-3046.2008.01072.x

Ramsey P (1970) The patient as a person: explorations in medical ethics. Yale University Press, New Haven

Schoene-Seifert B (2014) Harm. In: Post SG (ed) Encyclopedia of bioethics, vol 2, 3rd edn. Thomson Gale, Farmington Hills, pp 1033–1038. Retrieved

Senderovich H (2016) How can we balance ethics and law when treating smokers? Rambam Maimonides Med J 7(2):e0011. https://doi.org/10.5041/RMMJ.10238

Truog RD, Miller FG, Halpern SD (2013) The dead-donor rule and the future of organ donation. New England Journal of Medicine, 369, 1287–1289. https://doi.org/10.1056/NEJMp1307220

Wertheimer P, Jouvet M, Descotes J (1959) A propos du diagnostic de la mort du syst'eme nerveux dans les comas avec arret respiratorire traites par respiration artificiaelle. Presse Med 67:87–88. Retrieved from http://creighton-primo.host

Wijsdicks EF, Varelas PN, Gronseth G, Greer DM (2010) Evidence-based guideline update: determining brain death in adults report of the quality standards Subcommittee of the American Academy of Neurology. Neurology 74(23):1911–1918. https://doi.org/10.1212/WNL.0b013e3181e242a8

Wightman A, Young B, Bradford M, Dick A, Healey P, MacDonald R, Smith J (2014) Prevalence and outcomes of renal transplantation in children with intellectual disability. Pediatric Transplantation 18(7), 714–719. https://doi.org/10.1111/petr.12339

Wilkinson D, Savulescu J (2012) Should we allow organ donation euthanasia: alternative for maximizing the number and quality of organ for transplantation. Bioethics 26(1):32–48

Yeh H, Smoot E, Schoenfeld DA, Markmann JF (2011) Geographic inequity in access to livers for transplantation. Transplantation 91(4):479–486. https://doi.org/10.1097/TP.0b013e3182066275