
Introduction

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Issues in Medical Ethics

THERE HAS BEEN A DRAMATIC IMPROVEMENT in transplant patient and graft survival over the past two decades. As a result, transplant technology has been extended to patients with liver, pancreas, small intestine, and lung end-stage organ failure, and more and more patients are opting for this form of therapy. Newer, safer and more powerful immunosuppressants, better anesthesia, new surgical techniques, and a better understanding of the immunological phenomena involved in the process have all contributed to this improvement.

The success of organ transplantation has led to two further developments. One is that physicians now consider extending transplantation to “quality of life” conditions that have not previously been considered amenable to transplantation. When significant risks were associated with organ transplantation and post-transplant immunosuppression, transplantation was reserved as the treatment of last resort for patients who would die without it. Now it is being considered as a treatment for patients who could survive without having a transplant.

The other consequence of the successes in transplantation is a persistent and continuing shortage of organs. As new patients turn to transplantation to extend their lives, and previous organ recipients outlive the viability of their transplanted organs and return for retransplantation, there is increased need and demand for organs from the cadaver pool. Although attempts to increase the supply of cadaver organs have been somewhat successful, there are still not enough to satisfy this growing demand. About five thousand patients on American waiting lists die each year as a result of this shortfall (1). The severe shortage of human organs for transplantation has persuaded some transplant programs to introduce living donor transplantation.

Using living donors to provide organs for transplantation and extending organ transplantation technology to improve quality of life raises troubling new ethical issues. In designing the Mount Sinai School of Medicine’s annual conference, “Issues in Medical Ethics,” for 1999, and in publishing this collection as proceedings of that conference, we chose to focus on bringing some light to these controversial and challenging ethical issues.

The first group of papers in this special section addresses new domains for transplantation, some already being offered, others under investigation, and others at the stage of hypothetical possibility. In his paper “Extension of Organ Transplantation: Some Ethical Considerations,” philosopher George J. Agich examines the question of whether the vital/non-vital distinction

should mark the boundary for acceptable transplantation, and what additional considerations should be taken into account when deciding whether the risks associated with a transplant are justified. His paper is followed by discussions of several possible extensions of transplantation and the questions that each application would raise.

Dr. Albert Altchek considers the possibility of uterus transplantation. He explains the kinds of medical and emotional situations that create the need for such a procedure and elaborates on the factors that would make uterus transplantation unique: The transplant and the associated immunosuppression could be time-limited by reproductive goals rather than be lifelong; technical issues associated with providing a blood supply and managing rejection could be especially complicated; and the study of the uterus's response to foreign fetal tissue could provide an opportunity to learn about immunization and rejection.

Dr. Steven Fruchtman discusses stem cell transplantation. Although this procedure is already a well-accepted treatment for leukemia, an otherwise fatal disease, Dr. Fruchtman raises questions about the risks and harms to which donors are subjected, and other problems associated with the procedure. He also introduces questions about extending the procedure, with its inherent risks, as a treatment for thalassemia and sickle cell disease, conditions that are serious, but not immediately fatal.

Drs. Eric M. Genden and Mark Urken's paper deals with the possibility of laryngeal and tracheal transplantation. The authors describe patients with life-threatening thoracic tracheal defects, as well as patients who suffer the severe social handicap associated with laryngectomy. They also describe the special problems of revascularization and immunosuppression that would accompany these transplants, and the scientific advances that could make the procedure more feasible.

Drs. Michael R. Hausman and John Masters's contribution focuses on the much publicized issue of hand transplantation. They argue that the current risks associated with immunosuppression and the current low level of function that can be provided by a hand transplant, along with the psychosocial ramifications, render unjustified the procedure except for a very few exceptional cases.

The final pair of papers and the transcript of the panel discussion address the demanding decisions associated with living donor transplantation. Using living donors to provide organs for recipients produces no medical benefit for the donors, and subjects healthy people to certain disfigurement and the risks of harm and death. Nonetheless, a donor's commitment to a recipient can make the decision reasonable and acceptable from the donor's perspective. Yet the question remains of how to determine when transplant surgeons are justified in accepting the sacrifice of one person for the benefit of another.

Dr. Myron Schwartz raises the pressing issue of living donation in the context of liver transplantation. His discussion focuses on the issues of whether the urgency of the recipient's need justifies easing the standards for living donation, or whether the low likelihood of a good outcome for a recipient justifies raising the bar, or whether the donor's choice should always rule. Inherent in these ethical dilemmas is a broader question of whether autonomy should rule or whether medicine has the responsibility to set limits on living donation.

Philosopher Rosamond Rhodes uses the concept of trust to address the issues raised by Dr. Schwartz. She explains how the need for trust in the profession of medicine and in the programs that conduct living donation transplantation can be used to set the rules and moral boundaries for such programs.

Taken together, the papers in this section illuminate the unique and complex ethical challenges associated with recent developments in organ transplantation. The contributions, from physicians and philosophers, illustrate the medical, psychological and social problems that create the need to extend transplantation technology. They also highlight some of the complicated medical problems that must be surmounted in order to make transplantation an acceptable solution to these human needs and problems.

Reference

1. United Network for Organ Sharing (UNOS), 1999 Annual Report to the U.S. Scientific Registry of Transplant Recipients and the Organ Procurement and Transplantation Network: Transplant Data 1999–2000. Rockville, MD and Richmond, VA: HHS/HRSA/OSP/DOT and UNOS; <http://www.ustransplant.org/annual.htm>; follow link labeled "Data by Organ" and then choose "All Organs 1.7"