Organ Donation for Children: The Road Ahead

Over the past decade, significant policy changes have been made to the national organ allocation system, which is managed by the United Network for Organ Sharing (UNOS) under federal contract by the Organ Procurement and Transplantation Network (OPTN). Some of these changes may have contributed directly to the decreased pediatric waitlist mortality noted in this month’s article entitled “Pediatric Organ Donation and Transplantation,” an OPTN database review by Workman et al.1 To find new ways to further decrease pediatric waitlist mortality, the authors examined the use of pediatric Donation after Circulatory Determination of Death (DCDD) donors and found that most organs procured from these donors are used in adults. Although the authors seem disappointed to discover that pediatric DCDD organs are not being used for pediatric transplant recipients, they do acknowledge that any use of organs in adult recipients is good for pediatric patients in that it decreases the competition for the remaining organs.

There has been a long-standing commitment by UNOS/OPTN to protect the welfare of children. We would caution against an “us versus them” mentality in the allocation of this scarce and precious resource.2,3 Our efforts to increase access to transplantation for children should focus on subpopulations of children at the highest risk of waitlist morbidity and mortality, while limiting any significant adverse effect to the remaining pediatric or adult transplant recipients. In addition, we must be cautious to avoid viewing specific donor populations as “belonging” to specific recipient groups simply based on age, geography, gender, race, and so forth. We applaud efforts, such as the Organ Donation Breakthrough Collaborative, that have resulted in increased rates of organ donation.4

The increased use of DCDD kidneys and livers for transplantation into children may be one method to increase the number of pediatric transplants.5 However, most transplant programs have proceeded cautiously given recent improvements in pediatric organ allocation that have allowed children priority access to the highest quality of organ donors. For instance, pediatric kidney transplant programs have been reluctant to use DCDD kidneys in their patients after the institution of Share 35, a policy that gave pediatric patients a high priority for kidneys from donors aged < 35 years old. This ready access to high-quality deceased donor kidneys should not eliminate efforts to pursue living donation as the primary option for kidney transplantation in children. As pointed out by the authors, there has been a decline in living donor kidney transplants in children since the institution of Share 35.6 This trend has not only reduced the overall number of donor organs, but it has also decreased the average graft survival in pediatric recipients, given the significant longevity advantage of living donor grafts compared with even the highest-quality deceased donor grafts.7

The long-term biliary issues seen in the adult DCDD liver transplant experience has also limited the use of these grafts in small children.8,9

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ABBREVIATIONS
UNOS—United Network for Organ Sharing
OPTN—Organ Procurement and Transplantation Network
DCDD—Donation after Circulatory Determination of Death

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Split liver transplantation offers a better alternative to DCDD for the smallest children who are at the highest risk of waitlist mortality. Ongoing efforts to optimize the use of split liver transplantation for small children need to focus on minimizing the morbidity to the adult recipient of the corresponding right lobe graft. Only then will broader application of this important technique be accepted by the transplant community at large. The best way to increase availability of all organs to the sickest of patients, pediatric or adult, would be to share organs more broadly. This approach has already been adopted to some degree in pediatric heart allocation with good early results. Improvements in organ preservation and “resuscitation,” either pharmacologically in vivo or via use of ex vivo cold or warm perfusion methods, may allow for longer ischemia times to permit even broader sharing in the future of the most sensitive organs. Recent liver allocation policy changes approved by the board of directors of UNOS/OPTN provide for broader sharing of livers to the sickest of recipients, another important step in the right direction. Organ donation offers the opportunity to turn a personal tragedy into the gift of life for 1 or more complete strangers. As health care professionals working on either side of the transplant equation, we must strive to honor these gifts through careful stewardship of the organ donation and allocation process. Policy development should seek to maximize the use of all donated organs by creating a system based on medical urgency while eliminating arbitrary disparities to access. Both intensivists caring for patients at the end of life and transplant physicians caring for those desperate for a new lease on life must work together to maximize the opportunity to help our patients and their families.

REFERENCES


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