Profiling Live Kidney Donors in America: Cause for Optimism and for Concern

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T
he past two decades ushered in numerous clinical innovations in living-donor kidney transplantation (LDKTx) and an impressive increase in the volume of living-donor transplants. In this issue of CJASN, Davis and Cooper (1) review the rapid changes in the clinical profile of live donors that took place during that period. Their data suggest that growth in live donation was also facilitated by accepting donors who—like many Americans—are obese or uninsured or have hypertension. These donors are more often members of ethnic minorities, such as black individuals, and have an elevated risk for kidney disease. Davis and Cooper argue for more intensive efforts to ascertain detailed outcomes among these worrisome groups. However, the long time-horizon of plausible hazard poses challenges to answering the pressing question of whether donor nephrectomy is reasonably safe for all of our donors.

Recent innovations provide plenty of reasons to be optimistic about LDKTx. Today, transplant centers can leverage a wide array of new tools and knowledge that did not exist 20 years ago. Potential donors come to clinic bearing newspaper clippings about the latest minor miracle of kidney transplantation. Stories enthusiastically describe donor exchange chains that span multiple states or leading-edge surgical procedures for live donors that minimize the hospital stay and short-term morbidity of removing the kidney (2–6). As a result, perhaps, of this media exposure or of greater open-mindedness among transplant professionals, donors often have no biological relationship to the recipient and are instead friends, colleagues, or complete strangers. Meanwhile, clinicians can point to a steady stream of novel data about the effects of donation on the risks of mortality, hypertension, and even fertility. We can now say with more confidence that the risk for periprocedural death is on the order of one in 3500, that donation may increase BP modestly, and that young female donors experience only a small increased likelihood of hypertension-related disorders of pregnancy (7–11).

Unfortunately, pessimists can also make persuasive arguments about the uncertain future welfare of many living donors. Transplant staff confront the same troubling health trends among donors that manifest in the American public. As Davis and Cooper show, donors are getting heavier and commonly lack health insurance. They are older and, sometimes, have hypertension. Transplant physicians are unable to counsel these donors properly about risk because we do not know what it might be. As a result, studies of transplant center policies and registry data reveal a lack of consensus about whether and how to implement exclusion criteria on the basis of body mass index, BP, age, and health insurance (12–14). Nonetheless, our own experiences in donor clinic show that these “medically complex” donors are often highly motivated, and Davis and Cooper provide evidence that centers continue to accept thousands of these donors.

Funding agencies should continue to commit major resources to examining donor outcomes, and they should focus on medically complex donors. High-quality, long-term studies from Minnesota and Scandinavia indicated that white donors without risk factors for chronic kidney disease can expect a long life and little absolute risk for dialysis related to donation (7,15,16). Thus, investigators must now focus on mortality, ESRD, and cardiovascular events attributable to donation among higher risk donor subgroups. Black and Hispanic Americans should be well represented in these studies (17). Study sections should remain skeptical of cross-sectional or surrogate outcomes. Unfortunately, because most donors are healthy at the time of nephrectomy and because event rates will be low, costly studies with a long time-horizon will be required to accrue adequate events and the opportunity for definitive conclusions. Organizations such as the Health Resources and Services Administration and the Organ Procurement and Transplantation Network (OPTN) can take steps to facilitate this work. Although the burdens of data reporting for centers are substantial, the OPTN should require or incentivize centers to provide comprehensive data on select characteristics, such as body mass index and BP, for every single donor. In addition, the OPTN should receive additional funding to link its donor data to other data sources, such as the US Renal Data System and the National Death Index, to ascertain which donors later need dialysis or die; this
information should be provided routinely to researchers who demonstrate appropriate procedures to maintain data security. As Davis and Cooper point out, the OPTN has already linked their data set to the Social Security Death Master File, an important step in the right direction.

The balance of optimism and pessimism—and the prospects for further growth in LDKTx—will ultimately be driven by such studies. In the meantime, transplant clinicians will continue to struggle with whether to accept medically complex donors and how to obtain informed consent in the absence of sufficient information on what their future might hold after nephrectomy.

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Disclosures

None.

References
