Long-Term Outcomes in Kidney Donors

By Scott Reule and Hassan N. Ibrahim

As donor nephrectomy is entirely performed for the benefit of the recipient, minimizing surgical morbidity and preserving long-term mortality is a priority. Currently, laparoscopic nephrectomy is associated with less pain, shorter hospital stay and faster return to work, and a calculated mortality rate of 3.1 per 10,000 donors, controlled for age, race, and sex (1,2).

Does kidney donation, with its associated loss of glomerular mass, impart a risk profile similar to that of patients with chronic kidney disease (CKD)? Many studies have demonstrated no significant increase in mortality among donors in comparison to variably matched controls and variable follow-up times. In a larger study, Ibrahim et al. reported on the vital status of approximately 3700 kidney donors, matched for age, sex, race, and BMI over a 40-year time frame. In their analysis, there was no evidence of increased disease decrement in lifespan and, in fact, the donors seemed to outlive their age-matched peers (3). Segov et al. demonstrated no significant change in overall survival among more than 80,000 kidney donors compared to age- and comorbidity-matched controls using national registry data (2). Studies in older donors demonstrate similar findings. Berger et al. demonstrated no significant increase in mortality among donors older than 70 years of age (4).

In general, kidney donors are in excellent health as they undergo extensive medical and surgical screening; however, the evidence suggests that reduced GFR may be an independent predictor of all-cause and cardiovascular mortality. Although GFR decline due to nephrectomy versus GFR decline in the setting of comorbid disease are mechanistically different, concerns regarding kidney donation and a possible increased cardiovascular risk remain. Mjoen et al. followed 2269 Norwegian donors for a median of 14.3 years and revealed that overall as well as cardiovascular mortality was lower in donors than the general population matched for age and gender (5). More recently, Garg et al. used extensive exclusion criteria to select “the healthiest segment” of the general population for comparison with kidney donors. They were able to demonstrate no increased risk of death or cardiovascular event in kidney donors over a median follow-up of 6.5 years with maximum follow-up of 18 years (6).

Current literature suggests that donor outcomes are excellent and the appropriate screening of candidates may contribute to the decreased risk observed. Regardless, considerable interest remains in long-term outcomes among kidney donors as efforts are being made to expand the donor transplantation pool, including use of non-ideal donors. Creation of prospective studies of the less than ideal donors is crucial.

References

Outcomes of Living Kidney Donation in Racial and Ethnic Minority Donors

By Krista L. Lentine and Dorry L. Segev

The expansion of kidney transplantation from living donors over the last several decades has included greater racial and ethnic diversification of the donor population. In the United States, the fraction of non-white living kidney donors rose from 24 percent in 1988 to 30 percent in 2011, representing more than 1700 donors. Currently, 12 percent of living kidney donors in the United States are African American and 13 percent are Hispanic. Because most countries, including the United States, do not currently maintain national registries that effectively track long-term donor outcomes, much of the information on postdonation health has been drawn from single-center, retrospective studies. The largest cohort study of living kidney donors published to date found no adverse impacts of donation on survival or end stage renal disease (ESRD) compared with general population registry controls (1). However, racial and ethnic diversification of the donor population is increasingly recognized as a growing concern.

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