Increased Use, Good Outcomes of Living Kidney Transplants from Older Donors

Kidney transplants from living donors (LDs) aged 60 or older are increasing, with recipient survival rates at least as good as those after deceased standard donor criteria (SDC) transplantation, reports a study in Transplantation.

The researchers analyzed United Network for Organ Sharing data from 1994 to 2012, focusing on trends in the use of older LD kidneys and their outcomes. Of the total 250,827 transplants, 92,646 were from LDs.

Overall, 4.5 percent of recipients of LD transplants received organs from donors aged 60 or older. The percentage of older LD transplants increased from 3.6 percent in 1994 to 7.4 percent in 2011; most of the growth was among donors aged 60-69. Older LD kidneys were associated with lower graft and overall survival compared with younger LD kidneys.

Graft survival was also lower with LD kidneys from donors aged 70 or older, compared with deceased SCD transplants. However, overall survival was similar between these groups. Both graft and overall survival were higher for older LD kidneys compared with expanded criteria donor (ECD) transplants.

As the use of older LD kidneys increases, questions remain about their safety and efficacy. The new study shows that although younger LD transplants still have the best outcomes, older LD kidneys yield overall survival similar to that with deceased SCD transplants and better than with ECD kidneys. The investigators conclude, “[T]he comparable long-term outcomes of kidneys from older living donors compared to SCD or ECD kidneys with the short-term advantages of avoiding dialysis promote the expanded use of this resource” [Englum BR, et al. Outcomes in kidney transplant recipients from older living donors. Transplantation 2015; 99:309–315].

Dietary Metabolite Linked to CKD Development and Progression

Higher levels of the gut bacterial by-product trimethylamine N-oxide (TMAO)—associated with consumption of red meat, eggs, and dairy products—are linked to the development of and mortality from chronic kidney disease (CKD), reports a study in Circulation Research.

The researchers examined the prognostic value of TMAO levels in patients with chronic kidney disease on dialysis.

Measurement of TMAO provided additional prognostic value in CKD patients, with net reclassification index of 17.26 percent and differences in the area under the receiver operator characteristic curve of 63.26 versus 65.95 percent. Among control individuals without CKD, higher TMAO levels were associated with increased mortality in those with normal or elevated cystatin C levels.

Findings

Increased Use, Good Outcomes of Living Kidney Transplants from Older Donors

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In animal models, higher dietary choline or TMAO levels were directly linked to progressive renal tubulointerstitial fibrosis and decreased kidney function. The results suggest that dietary-induced, microbiota-dependent differences in levels of TMAO may contribute to CKD development, progression, and mortality. Further studies of these associations are needed, including the possible effects of a diet designed to limit TMAO precursors (low in red meat, egg yolk, and high-fat dairy products) on the rate of CKD progression. [Tang WHW, et al. Gut microbiota-dependent trimethylamine N-oxide (TMAO) pathway contributes to both development of renal insufficiency and mortality risk in chronic kidney disease. Circ Res 2015; 116:448–455].

Cognitive Function Linked to Mortality in Hemodialysis Patients
Cognitive impairment, especially impaired executive function, is associated with an increased risk of death among patients receiving maintenance hemodialysis, reports a study in American Journal of Kidney Diseases.

The researchers analyzed the results of baseline and annual neurocognitive assessments in 292 patients receiving maintenance hemodialysis. The patients’ mean age was 63 years, and 90 percent had at least a high school education. Patients with dementia were excluded.

Associations between cognitive function and mortality risk in chronic kidney disease.

References:

For the control of serum phosphorus levels in patients with chronic kidney disease on dialysis

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