Kidney Donation Holds Few Risks for Women Who May Become Pregnant

Women who want to bear children in the future need not worry about the risks of donating a kidney before pregnancy, researchers have found.

Historically, little information has been available on whether women kidney donors can go on to have healthy pregnancies. Sanjeev Akkina, MD, and his colleagues at the University of Minnesota in Minneapolis looked at the issue by studying 2025 women who donated kidneys since June 1963. Of these, 965 reported becoming pregnant—822 donors reported 2416 pregnancies before donation and 223 reported 459 pregnancies after donation.

Post-donation pregnancies had a higher incidence of certain health conditions than pre-donation pregnancies, but their incidence was comparable to those seen in the general population.

“A woman who has donated a kidney does not face any additional risks of developing hypertension or diabetes during a future pregnancy or of having a miscarriage or of giving birth premature-ly,” Akkina said. “We believe this research is important so that future kidney donors are aware of the long-term effects of donation,” he said.

The study’s findings could have a significant clinical impact, according to Milagros Samaniego-Picota, MD, a nephrologist and associate professor at the University of Wisconsin School of Medicine and Public Health in Madison. “There is a paucity of data about outcomes in living kidney donors,” she said. “This information will prove useful to nephrologists around the country charged with the task of living donor evaluations and advocacy.”

More than half of all living kidney donors are female, and of these, 79 percent are women of childbearing age, said Samaniego-Picota.

The study, “Pregnancy Outcomes after Kidney Donation,” was part of the session on “Care Delivery in Kidney Transplantation and the Living Kidney Donor.”

Kidney Transplants Improve Cognitive Performance in Patients with Chronic Kidney Disease

Kidney transplants lead to improved mental performance in people with kidney disease, new research shows.

Individuals with chronic kidney disease often suffer from cognitive impairment, but it is unclear to what extent outside factors such as age and medication play a role.

To investigate the effect of kidney transplantation on the mental performance of individuals with kidney disease, lead author Mark Unruh, MD, and his colleagues at the University of Pittsburgh compared kidney transplantation to dialysis only. They assessed cognitive performance before and after kidney transplantation and dialysis using neuropsychological tests related to language, learning and memory, attention, and other brain processes involved with thought and behavior.

“These findings support the position that kidney transplantation provides optimal replacement of renal function and an opportunity to improve quality of life and rehabilitation in individuals with advanced chronic kidney disease,” Unruh said.

The 37 individuals who received kidney transplants in this study significantly improved their overall cognitive performance, specifically performing better on verbal learning and memory and working memory tasks than individuals who received dialysis. The investigators did not find any improvement in individuals not undergoing the surgical procedure. In fact, test scores declined in these individuals over time.

“The findings from this study highlight an important but often overlooked benefit of kidney transplantation and provide further encouraging evidence that the cognitive deficits seen in patients with kidney failure are reversible,” said Manjula Tamura, MD, at Stanford University Medical Center’s nephrology department.

Remedies Sought for Inequities in Kidney Transplant Allocation

Wait times for kidney transplants throughout the United States vary widely, so that some individuals can receive a deceased donor’s kidney within just one year while others must wait up to a decade. Researchers are investigating the issues related to organ allocation inequities and are searching for ways to remedy them.

“The predominant variable influencing access to kidney transplantation in the United States, even more important than race or insurance status, is geography,” said Alan Leichtman, MD, of the University of Michigan in Ann Arbor. “When rates are compared across states, access to living donor transplantation and to waitlisting for deceased donor transplantation each vary twofold, while access to a deceased donor kidney transplant among waitlisted patients varies threefold.”

“The predominant variable influencing access to kidney transplantation in the United States, even more important than race or insurance status, is geography.” —Alan Leichtman

A variety of initiatives across the country are striving to change organ allocation practices and may help equalize these rates.

Donor exchange programs, which match an incompatible patient-donor pair with a patient-donor pair of the opposite compatibility, can help encourage greater access to donated kidneys. In this situation, two patients receive donated organs, but not from the donor who is their own family member or loved one.

“A willing transplant candidate with a willing donor who is incompatible based on blood testing is a missed opportunity,” said Ajay Israni, MD, of the Hennepin County Medical Center in Minneapolis. “A paired-exchange program takes advantage of that opportunity and links up incompatible pairs that may, with luck, be compatible after exchanging donors.” Israni helped start a program that exchanges paired donor information among nine different centers in the Midwest.

Multi-organ donation, in which patients receive multiple organs—such as a heart, a liver, and a kidney—at one time, can complicate issues of organ allocation. “There are concerns that centers may use one organ to get faster access to another. For example, if you list someone for a liver plus kidney transplant, they will get the kidney much faster than if they were listed for a kidney alone,” said Viken Douzdjian, MD, of the Legacy Good Samaritan Hospital in Portland, Ore. Douzdjian added that the regulations for allocating organs for multiple transplants are vague and confusing.

“The rules about listing someone for a combined transplant are very loose compared to single organ transplants. We need minimum listing criteria for multiple organ transplants,” he said.

Varying qualities of deceased donors’ organs also complicate organ allocation. While receiving an organ from a standard criteria donor (a healthy person who is age 18 to 60 years) is ideal, an increasing number of available organs are from “non-ideal” sources. For example, a donated kidney may come from an older donor whose kidney function is not completely normal or from a donor who died from cardiac complications.

Often, patients in need of kidney transplants agree to accept organs from these types of donors because it would increase their chance of having a transplant, given the national shortage of kidneys.

“These trends have resulted in a need to classify deceased donor organs to encapsulate both the physiologic insults and the expected functional quality of the organs—characteristics which may have significant impact on the expected graft and recipient outcomes,” said Akinlolu Ojo, MD, PhD, of the University of Michigan in Ann Arbor. Ojo noted that there are ongoing attempts to refine the classification of deceased donor kidneys to better inform the allocation system.

These issues related to organ allocation were discussed during a clinical nephrology conference on “Allocation of Deceased Donor Organs for Renal Transplantation.”