

Tulane University Study Says Donor Age Not A Factor in Kidney Transplant Success

August 24, 2009 2:00 AM Keith Brannon

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A single kidney from a very young donor maintains the health of an adult with kidney failure as well as a kidney from an older donor, according to a new study by Tulane University School of Medicine doctors in the current issue of the Clinical Journal of the American Society of Nephrology.

The study, by Dr. Rubin Zhang and colleagues in the Tulane Abdominal Transplant Institute, aimed to determine whether kidney transplants from deceased donors less than five years old were as effective in adults as those involving donors between the ages of five and 10 years old.

In most transplant centers, both kidneys of very young deceased donors are transplanted together into one patient. Determining the minimum donor age or body weight for splitting kidneys for transplant is controversial. Transplanting both pediatric kidneys into an adult theoretically provides better kidney function, and surgeons do not usually divide kidneys when the donor is under five years of age. However, giving each of two patients in need one organ from the same donor could increase kidney transplants: in the United States approximately 80,000 individuals are waiting for kidney transplants, and 4,000 die each year before receiving transplants.

The researchers' study included all 79 adults who received transplants at the Tulane Abdominal Transplant Institute with single pediatric kidneys from deceased donors aged 10 years or less between January 1996 and June 2007. Physicians transplanted a single pediatric kidney if it was healthy enough for splitting and the recipient consented. Half of the adults received single pediatric kidneys from donors less than five years of age. The other half received single kidneys from donors aged five to 10 years.

While more patients in the group that received a kidney from the youngest donors (73 percent) needed ureteral stents (tubes inserted to help drain urine from the kidney) than patients in the other group (38 percent), complications that required additional surgery were similar in the two groups. Patients in the two groups experienced similar rates of kidney rejection and delayed kidney function. In both groups, kidney function improved dramatically in the first year after transplant, and it continued to improve into the third year.

Furthermore, patients in the two groups lived a similar length of time. The youngest donor in the study was a nine-month old female; both of her donated kidneys remain healthy more than six years posttransplantation into two different recipients.

While other studies have reported more complications when single kidneys from very young donors are transplanted into adults, this study found that the practice is safe and effective. “Single pediatric kidney transplants from donors less than five years can be utilized with acceptable complications and good long- term outcomes” the authors concluded.

Study co-authors include Dr. Anil Paramesh, Dr. Sandy Florman, C. Lillian Yau, PhD, Dr. Saravanan Balamuthusamy, Dr. N. Kevin Krane and Dr. Douglas Slakey.

The article, entitled “Long-Term Outcome of Adults Who Undergo Transplantation with Single Pediatric Kidneys: How Young Is too Young?” is available online [here](#).