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# Metabolic syndrome in living kidney donors worsens function of remaining kidney

People who donate one of their kidneys experience faster deterioration of their other kidney if they have the metabolic syndrome at the time of donation, a new study finds. The results will be presented Sunday at The Endocrine Society's 92nd Annual Meeting in San Diego.

Each year more than 6,000 adults in the United States are living kidney donors. Over time, these donors typically have some decline in function of their remaining kidney, depending on their age and other factors. However, the new study found that kidney function decreases more than twice as fast in donors who have a cluster of cardiovascular risk factors known as the metabolic syndrome.

"The metabolic syndrome before kidney donation can negatively affect a donor's kidney function outcome," said the study's lead author, Daniel Cuevas-Ramos, MD, a clinical researcher at Mexico's Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran. "We recommend that living kidney donors correct any metabolic abnormalities before donation."

Diagnosis of the metabolic syndrome depends on the presence of at least three of the following: a large waistline, low HDL ("good") cholesterol, high triglycerides (levels of fat in the blood), high blood pressure and high blood glucose (blood sugar) at a level considered prediabetes or above. The metabolic syndrome, which affects one in five people in the United States, increases the chance of developing Type 2 diabetes, heart disease and stroke.

Cuevas-Ramos and his colleagues studied 140 adults who donated a kidney. Of those, 28 donors had the metabolic syndrome before donation and 112 did not. Using long-term follow-up data, the investigators determined each donor's kidney function after donation, measured by the glomerular filtration rate, or GFR, on a blood test. In general, a GFR below 70 milliliters per minute indicates below-normal kidney function.

The average time it took for donors' GFR to drop below 70 was less than six years in those who had the metabolic syndrome before donation versus approximately 13 years in donors without the syndrome.

"This study does not suggest that the metabolic syndrome is a contraindication for kidney donation but rather another potential risk factor for decline in renal function," Cuevas-Ramos said.

Medical reasons for rejecting a kidney donor, called contraindications, vary among U.S. transplant centers. However, diabetes, obesity, and high blood pressure are usually contraindications to donating a kidney.

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