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Minor kidney damage in people with type 1 diabetes leads to increased mortality

ORLANDO, Fla., June 26 – People with type 1 diabetes who have early and asymptomatic kidney damage, as indicated by small amounts of protein in the urine, are six times more likely to die compared to the general population, say researchers at the University of Pittsburgh Graduate School of Public Health. Their study, being presented at the 70th Scientific Sessions of the American Diabetes Association, also found that when kidneys remained normal over time, people with type 1 diabetes had no greater risk of death than their healthy counterparts.

The findings, abstract number 0917-P, were based on data from 658 men and women enrolled in the Pittsburgh Epidemiology of Diabetes Complications Study, a long-term prospective examination of childhood onset type 1 diabetes that began in 1986. Researchers tested participants for levels of albumin, a protein that indicates early kidney damage when elevated in the urine and results in a condition called microalbuminuria.

After 20 years of follow-up, 152 participants (23 percent) with microalbuminuria had died – a rate 6.2 times higher than age- and sex-matched people in the general population. When researchers excluded from the analysis participants who developed kidney damage after initial protein testing, they found that mortality rates for those with normal kidneys were no different than in the general population.

"Early stages of kidney disease in type 1 diabetes may be very important because they can lead to a sizeable increase in the risk of death," said Aaron M. Secrest, lead author of the study and a doctoral student at the University of Pittsburgh Graduate School of Public Health. "The hopeful news is that this risk virtually disappears when kidneys remain healthy, which should encourage physicians to closely monitor kidney health in people with type 1 diabetes."

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Study co-authors include Rachel G. Miller, M.S., and Trevor Orchard, M.D., of the University of Pittsburgh. The study was funded by the National Institutes of Health.

The University of Pittsburgh Graduate School of Public Health (GSPH), founded in 1948 and now one of the top-ranked schools of public health in the United States, conducts research on public health and medical care that improves the lives of millions of people around the world. GSPH is a leader in devising new methods to prevent and treat cardiovascular diseases, HIV/AIDS, cancer and other important public health issues. For more information about GSPH, visit the school's Web site at

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