Chronic kidney disease increases risk of death at all ages

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A new study from the Johns Hopkins Bloomberg School of Public Health and the Chronic Kidney Disease Prognosis Consortium found that chronic kidney disease and its complications were associated with a higher risk of death regardless of age. The findings were presented October 30 at the American Society of Nephrology conference in San Diego, Ca. and published in latest issue of *JAMA*.

Chronic kidney disease prevalence increases dramatically with age from 4 percent at age 20-39 to 54 percent of adults over age 75 in the populations studied. This led some groups to question whether kidney disease at older ages is associated with increased risk and even whether the accepted definition of chronic kidney disease should be changed. Kidney disease is measured by estimating kidney function (glomerular filtration rate, GFR), and kidney damage is often quantified by measuring albumin, the major protein in the urine standardized for urine concentration.

According to the study, both low kidney function and high albuminuria were independently associated with mortality and end-stage renal disease regardless of age. Among the general populations examined and groups at high risk for kidney disease, the study found that relative mortality risk decreased with age in participants with low kidney function while absolute excess risk increased. For participants with high albuminuria, the reductions in relative risk were less apparent while increases in absolute risk were higher among older participants.

"By collaborating with many of the world's leading studies, we were able to see a clear pattern showing that both of the current indicators of chronic kidney disease are strongly associated with risk, even at older age," said Josef Coresh, MD, PhD, MHS, the Consortium's principal investigator and professor in the Bloomberg School's Department of Epidemiology.

For the study, researchers analyzed data from more than 2 million participants from 46 cohort studies conducted during 1972 to 2011. The study participants included a diverse population from Asia, Australia, Europe, and North and South America. Stein Hallan, a nephrologist from Norway, who led the writing of the manuscript on behalf of the 178 collaborating investigators said, "This analysis put to bed the controversy about kidney disease among older adults and the hypothesis that chronic kidney disease is so common at old age that it must be 'normal.' Instead we need to focus on the range of risks at each age and potential strategies to help patients minimize unnecessary exposure to medications toxic to the kidney and pursue other strategies to best treat kidney disease across the full age spectrum."

"Age and the Association of Kidney Measures with Mortality and End-Stage Renal Disease" written by the Chronic Kidney Disease Prognosis Consortium (CKD-PC), which includes approximately 200 collaborators and data from 40 countries.

Provided by Johns Hopkins University Bloomberg School of Public Health