

Factors associated with decline in child kidney function identified

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Characteristics associated with proteinuria—a predictor of decline in child kidney function—have been identified, according to a study appearing in the March 2009 issue of the *Clinical Journal of the American Society Nephrology* (CJASN). The findings indicate that the level of kidney impairment, the cause of kidney disease, and race are linked to proteinuria—the presence of protein in the urine. The results provide new information regarding the importance of proteinuria and the factors associated with its development in the largest group of children with chronic kidney disease (CKD) ever studied.

In [children](#) with CKD, proteinuria has not been studied extensively and researchers did not know what factors are linked to its presence. To better understand proteinuria in young [kidney disease](#) patients, Craig Wong, MD, MPH (University of New Mexico) and his colleagues studied subjects enrolled in the [Chronic Kidney Disease in Children](#) (CKiD) cohort study, a trial designed to investigate the factors influencing the progression of CKD in children.

The researchers studied more than 400 patients who were aged 1 to 16 years and were seen at 43 pediatric nephrology centers across North America. Clinical tests revealed that proteinuria levels were higher in children with low glomerular filtration rates (an indication of low kidney function). Proteinuria also was associated with non-Caucasian race, which suggests that differences in proteinuria might be due to genetic or environmental factors. The investigators also found that proteinuria was associated with glomerular causes of CKD in which damage occurs in the glomeruli (filtering units inside the kidneys). Furthermore, among patients with glomerular causes of CKD, those who took renin-angiotensin system antagonizing drugs had lower levels of proteinuria compared with those who did not take these medications.

The findings from this study—that in children with CKD, proteinuria is associated with 1) low glomerular [filtration rate](#), 2) the underlying glomerular cause of CKD, and 3) African American race—will be useful for physicians as they strive to prevent kidney disease progression in young patients.

George J. Schwartz, MD (University of Rochester), a co-author of the study, says that "the CKiD study will enable us to directly examine the effect of proteinuria on the progression of CKD in children, because the design of this study specifies three longitudinal measurements of [glomerular filtration rate](#) in each subject over five years of follow-up."

More information: The article, entitled "Association of Proteinuria with Race, Cause of Chronic Kidney Disease, and Glomerular Filtration Rate in the Chronic Kidney Disease in Children Study," will appear online at cjasn.asnjournals.org/ on March 18, 2009, doi 10.2215/CJN.01780408.

Source: American Society of Nephrology ([news : web](#))

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