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Doctors' tests often miss high blood pressure in kids with kidney disease

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Many children with chronic kidney disease (CKD) who show normal blood pressure readings at the doctor's office have high blood pressure when tested at home, according to a study appearing in an upcoming issue of the *Journal of the American Society Nephrology* (JASN). The findings indicate that many CKD children are not appropriately treated for hypertension, which puts them at serious risk of developing heart disease.

Hypertension increases the risk of developing an enlarged heart, or left ventricular hypertrophy (LVH), which frequently leads to progressive heart disease. Children with CKD who have hypertension often develop LVH, yet many children with CKD who have normal blood pressure when taken in the doctor's office also develop the condition. Mark Mitsnefes, MD (Cincinnati Children's Hospital Medical Center), and his colleagues wondered if these children actually have elevated blood pressure not detected in the clinic.

The researchers analyzed information from approximately 200 children in the Chronic Kidney Disease in Children (CKiD) study, a prospective observational study of children with mild to moderate CKD. Children were asked to wear devices that collect blood pressure readings periodically throughout the day and night. Dr. Mitsnefes and his team found that monitoring blood pressure in this way revealed that one third of children with CKD who had normal blood pressure readings in the doctor's office actually had elevated blood pressure (called masked hypertension). Some of these children were not taking any blood

pressure medications, meaning they had unrecognized hypertension, while some were being treated with low doses of antihypertensive medications, meaning they had undertreated hypertension. More importantly, children with masked hypertension were four times as likely to have LVH as children with normal blood pressure.

These results support the case for early heart tests and ongoing blood pressure readings outside the clinic as a part of standard care to screen for LVH and hypertension in children with mild to moderate CKD, said Dr. Mitsnefes. "We hope that by recognizing and treating masked hypertension we might reverse LVH and delay or prevent the development of more serious cardiac complications in these children."

More information: The article, entitled "Masked Hypertension Associates with Left Ventricular Hypertrophy in Children with CKD," will appear online at jasn.asnjournals.org/ on Thursday, November 12, 2009, doi 10.1681/ASN.2009060609.

Source: American Society of Nephrology (news : web)

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