

Blood pressure test reveals heart disease risk in patients with early stages of CKD

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Pulse pressure, an inexpensive and noninvasive measurement derived from blood pressure readings, can effectively indicate which patients with kidney disease are at increased risk of developing potentially fatal heart complications, according to a study appearing in the February 2009 issue of the *Clinical Journal of the American Society Nephrology* (CJASN).

Patients with chronic kidney disease (CKD) frequently die from cardiovascular complications. Therefore, it is important to identify early signs of heart trouble in these individuals. Clinicians use pulse pressure (an indicator of arterial stiffness and aging) to measure coronary artery calcification in patients on dialysis. However, this test has not been used in patients with earlier stages of disease who are not yet on dialysis.

To investigate its utility in these patients, Domenico Russo, MD, of the University of Naples Federico II, in Naples, Italy, and his colleagues assessed the accuracy of pulse pressure for predicting coronary artery calcification in 388 CKD patients not on dialysis. Coronary calcium scores and abdominal x-rays were used to measure calcification, which was compared with measurements made by pulse pressure.

The researchers found that pulse pressure (above 60 mmHg) correlated significantly with coronary calcium scores in all patients with various stages of CKD. The findings indicate that pulse pressure may be used to identify CKD patients with sub-clinical heart conditions who need further evaluation.

The investigators also noted a high prevalence of coronary artery calcification (42.3%) in this population of patients with chronic renal failure not yet on dialysis. Because coronary artery calcification rapidly progresses and can lead to cardiovascular disease if left untreated, widespread screening of vascular calcification may be warranted in pre-dialysis patients.

Source: American Society of Nephrology

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