

Parathyroid hormone (PTH) levels increase with progressive stages of [chronic kidney disease \(CKD\)](#) significantly more in African Americans (AA) than in patients of other races, new study findings suggest. This racial difference is apparent as early as stage 2 CKD.

In addition, the study demonstrated that only a moderate component of the PTH increase in AA is explained by changes in serum calcium, phosphorus, and 25-hydroxyvitamin D (25-D), according to a report in *Nephrology Dialysis Transplantation* (published online ahead of print). The findings are important “because PTH is used as a gauge of CKD mineral bone disorder, a gauge that can drive therapeutic interventions,” the researchers wrote. “Almost certainly, the weight of evidence suggests that use of this gauge must be selective in relation to AA race, an issue that has not yet been addressed in any clinical guidelines.”

Jennifer Ennis, MD, of Litholink Corp., Chicago, a subsidiary of LabCorp, and colleagues analyzed data from 2,028 CKD patients from primary care and nephrology practices across the United States. Of the 2,028 patients, 505 were AA.

The mean PTH was significantly higher for AA than for non-AA in each successive stage of CKD, beginning with stage 2. Results showed that 25-D levels were significantly higher for non-AA in CKD stages 1-3. Serum calcium and phosphorus did not differ between the groups at any stage. Serum calcium, phosphorus, and 25-D were inversely correlated with PTH levels regardless of race, but all factors combined accounted for approximately 42% of the variance in PTH, Dr. Ennis' group reported.

The new findings supplement those of previous studies. For example, in a study of 218 patients in an ethnically diverse ambulatory nephrology practice at the University of California-San Francisco, Ian H. De Boer, MD, and colleagues found that the adjusted mean PTH was significantly higher among AA compared with whites (233 vs. 139 pg/mL). Among patients with an estimated glomerular filtration rate (GFR) below 60 mL/min/1.73 m², the slope of GFR vs. PTH was significantly steeper among AA than whites, according to a report in the *Journal of the American Society of Nephrology* (2002;13:2762-2769).

Dr. Ennis and her group pointed to some important limitations of their study. For example, urine

data and information on diet were unavailable, and medication information was unavailable for only 42% of cases. The researchers did not have information about socioeconomic status, body mass index, and smoking status.

Furthermore, they noted that because of the cross-sectional design of the study, patients may have been at various stages of treatment of CKD mineral bone disorder. “Consequently, the ability to generalize about the natural history of CKD and its implications on mineral metabolism is limited,” they wrote.

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