

Selenium May Help Explain Racial Differences in HT

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NEW ORLEANS — Reduced serum selenium is an independent predictor of hypertension, according to an analysis of data from the third National Health and Nutrition Examination Surveys.

The findings from this and other studies, that serum selenium concentrations are reduced in African Americans, compared with whites, may in part explain the increased incidence of hypertension in African Americans, Dr. Chizobam Ani reported in a poster at a meeting sponsored by the International Society on Hypertension in Blacks.

Serum selenium is an essential component in substances shown to mediate the incidence of cardiovascular disease, such as glutathione peroxidase and homocysteine. In 9,881 nonpregnant adults aged 40 years and older who participated in the third National Health and Nutrition Examination Surveys (NHANES III), significant differences in the concentrations of serum selenium were noted between African Americans and whites at the highest and lowest quartile concentrations (see graphic), reported Dr. Ani of Charles Drew University of Medicine and Science, Los Angeles.

On bivariate analysis, there was a significant association between serum selenium concentration and the prevalence of hypertension and other cardiovascular disease, including peripheral vascular disease, myocardial infarction, and congestive heart failure. An analysis that controlled for known predictors of cardiovascular disease, including family history, diabetes, renal disease, and sociodemographic variables, showed a significant relationship between serum selenium and the prevalence of hypertension (odds ratios 1.30), as well as a significant interaction effect between ethnicity and serum selenium among individuals with hypertension (odds ratio 1.10).

These findings are important because African Americans have higher rates of hypertension and mortality from heart disease and stroke than do whites and Hispanics in the United States, and because African American men have three times the risk of sudden death as do white men.

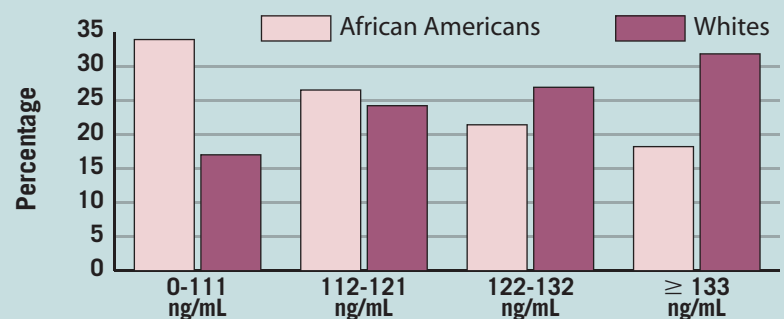
"Inquiry into biomarkers [that may be] predictors of differential risk and incidence, particularly at the population level, may provide useful explanatory insight regarding the differential burden on cardiovascular disease among African Americans," Dr. Ani wrote.

Based on the emerging understanding of the role of serum selenium in hypertension and cardiovascular disease, and the differing concentrations in African Americans and whites, Dr. Ani and his colleagues theorized that high serum concentrations of selenium might predict reduced levels of oxidate stress and vascular injury in certain ethnic groups that correlates with the incidence of cardiovascular diseases.

The current findings of a statistically significant interaction between serum sele-

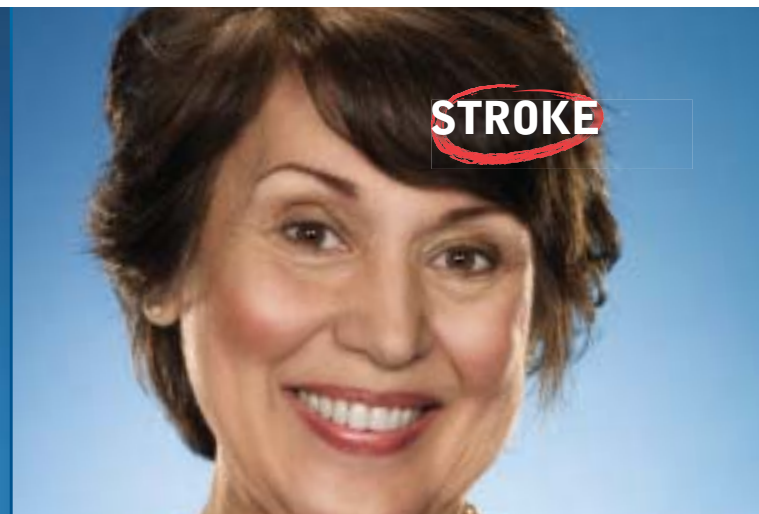
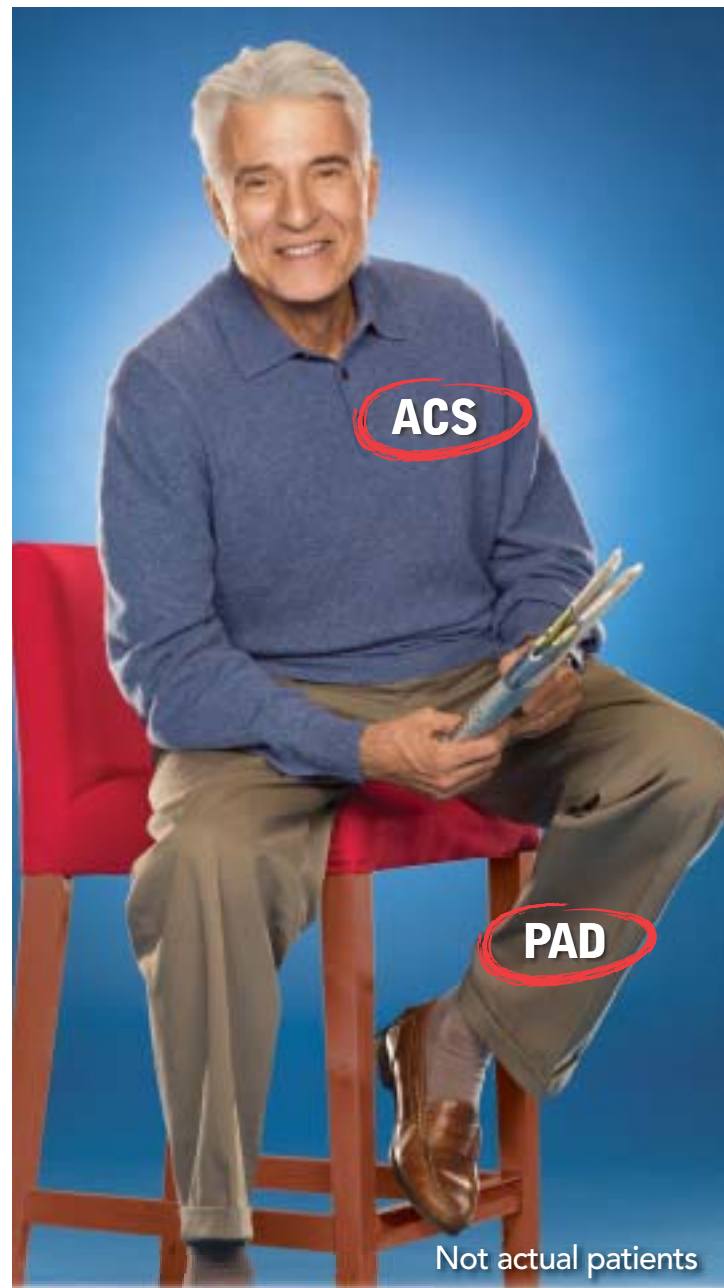
ni-um concentration and ethnicity in individuals with hypertension appear to support this theory of "differential oxidative protection for cardiovascular injury" in African Americans, compared with whites, he said in an interview, adding that the findings are of particular interest because low serum selenium concentration is a modifiable risk factor. ■

Serum Selenium Levels Differ in African Americans and Whites



Note: NHANES III data from 9,881 adults aged 40 years and older.
Source: Dr. Ani

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