Racial Variations in Thyroid Ca Likely Biological

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WASHINGTON — A population difference in tumor biology probably accounts for most of the 50% lower rate of thyroid cancer in blacks, compared with whites, Dr. Luc Morris said at the annual meeting of the American Academy of Otolaryngology–Head and Neck Surgery Foundation.

Lack of insurance and low income may contribute to the lower incidence in blacks by limiting early detection, but those factors don't entirely explain the difference between the groups, Dr. Morris said in an interview. "Even though we have statistically significant evidence for this and it's a real effect, it is not big enough to account for this really large disparity."

The incidence of thyroid cancer in the United States has increased dramatically over the past 30 years in both populations, probably as a result of improved screening, said Dr. Morris of the department of otolaryngology at New York University, New York. Nonetheless, whites are twice as likely to develop the disease, with an incidence of 10/100,000, compared with 5/100,000 among blacks. "With this large a disparity, the question arises, is this a true population difference with a biological explanation?"

To address this idea, Dr. Morris and his colleagues analyzed statistics from two national databases: the Healthcare Costs and Utilization Project and the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) database. They looked for three possible trends: If underdiagnosis in blacks was the primary reason for the difference, they expected to see black patients presenting at an older age with larger, more advanced tumors and higher mortality. If less-aggressive disease was the most accurate model, Dr. Morris said, the opposite picture would emerge. "And if there were truly a lower incidence of disease in the black population, one would expect no difference in these parameters."

They reviewed 54,000 cases of thyroid cancer in the SEER database from 1973 to 2003. It revealed a slower annual increase in disease in blacks over the period (2% vs. 2.8%), a difference of 1,800 cases a year.

Regions of the country with more uninsured patients showed a lower incidence of thyroid cancer, whereas those with more insured patients had higher rates, suggesting a difference in early detection. A regression analysis suggested that this effect could account for up to half of the black-white difference in national disease incidence. But this should be interpreted cautiously, Dr. Morris said, because neither database contained enough socioeconomic information for a multifactorial analysis.

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Clinical differences emerged as well. Blacks were 8% more likely to present at an older age (over 45 years), 12% more likely to have a tumor larger than 1 cm, and 13% more likely to have a tumor larger than 4 cm. But they were 11% less likely to have nodal metastases and 4% less likely to have either extrathyroidal or advanced disease, suggesting a less-aggressive disease course. There was no difference in mortality.

Because most of these risk ratios are similar, they reflect differences that, although statistically significant, probably are clinically small, Dr. Morris said. "The clinical and sociodemographic data are supportive of a role for socioeconomic status, a small detection bias favoring white patients, and slightly less-aggressive behavior of thyroid cancer in black patients. But all of these effects are quite small in comparison to the substantial black-white gap in cancer incidence."

Nor can environmental factors account for the disparity, since the only two known environmental risk factors for thyroid cancer—radiation exposure and iodine deficiency—are almost unheard of in the United States, he added. "This is probably a true population difference, but we don't have an explanation of why this might be."

Genetic differences may be the answer, but studies have yet to confirm this hypothesis. "We are just beginning to learn about the genetics of thyroid cancer, and no one has studied whether there are racial differences in the prevalence of these mutations." ■

Pages 16a—16b