Blacks Just as Likely as Whites to Pursue *BRCA* Test

BY LINDA LITTLE
Contributing Writer

GRAPEVINE, TEX. — African American women are almost as likely to pursue genetic testing for breast cancer as are white women, North Carolina researchers report.

"There is a perception in the genetic counseling field that African Americans are less likely to pursue genetic testing when it's offered," said Lisa Susswein, genetic counselor, University of North Carolina at Chapel Hill. "It has been thought that there were cultural barriers and, possibly, the inability to pay that kept African Americans from genetic testing."

But when women diagnosed with or at high risk for breast cancer were offered a test to detect *BRCA1* or *BRCA2* gene mutations, both African Americans and whites accepted. The results were presented at a meeting sponsored by the American College of Medical Genetics.

The test was offered to women who exceeded a 5%-10% risk of harboring a *BRCA* mutation as well as to women recently diagnosed with breast cancer. The test was offered to more than 800 women referred to the center.

Of those in the overall high-risk population who were offered the test, 58% of white women and 43% of African American women pursued the test. Among those women recently diagnosed with breast cancer, acceptance was 61% among whites and 50% among African American women, which was not a statistically significant difference.

Many studies have shown African American women are less likely to pursue genetics testing, she said. "This may have been perpetuated by physicians not offering genetics testing, and it's a circle that continues."

Overall, regardless of race, it is important to do testing in breast cancer patients before the primary surgery so they can be given the opportunity to have one surgery with prophylactic double mastectomies, Ms. Susswein said.

"This could save the patient from multiple surgeries down the line," she commented.

"This shows that African American women are interested in *BRCA* testing," Ms. Susswein said. "We … shouldn't shy away from offering them the test." ■

Possible Genetic Basis for Racial Disparities in Endometrial Ca

BY MICHELE G. SULLIVAN
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Differences in gene expression may be at least partially responsible for the differences in endometrial cancer survival rates and tumor aggression seen between black and white women, results of two studies suggest.

Many previous studies have ascribed racial disparities in endometrial cancer outcome to less aggressive treatment. The two new studies, which were presented at the annual meeting of the Society of Gynecologic Oncologists, identified a racial disparity in endometrial cancer even in a health care setting where patients receive similar care and suggested a genetic role for differences in outcome, according to Lt. Col. C.G. Larry Maxwell, MC, USA, the studies' lead investigator.

The studies showed a racial disparity in cancer in a setting where patients receive similar care, suggesting a genetic role for differences in outcome.

In the first study, the investigators compared tumor aggression and survival rates between 168 blacks and 997 whites with stage III, IV, or recurrent endometrial cancer. The data were drawn from four randomized controlled treatment trials performed by the Gynecologic Oncology Group of Roswell Park Cancer Institute, Buffalo, N.Y.

All patients received chemotherapy with doxorubicin alone or in combination with paclitaxel and/or cisplatin.

Blacks were more likely to have advanced stage disease and poorly differentiated and nonendometrioid tumors—all of which are associated with increased mortality. After adjusting for clinical and treatment factors using multivariate regression, blacks had a 25% increased relative risk of death, compared with whites. The overall survival rate was 10.6 months for blacks and 12.2 months for whites.

"This study clearly shows a survival disadvantage for blacks, even when they are treated as aggressively as whites," Dr. Maxwell, director of the Gynecologic Disease Center at Walter Reed Army Medical Center, Washington, said in an interview.

"This is extremely important because many prior investigators primarily have attributed the poor survival in African Americans to unequal treatment," he added.

The second study examined gene expression in 45 fresh frozen endometrial tumors. No differences in expression were found between the races in the first analysis, which included early-stage tumors. But when the researchers analyzed only the 28 advanced tumors (stage II, III, or IV; 10 black, 14 white), clustering emerged. There were 325 genetic transcripts that were differently expressed between the groups, and 66 were differentially expressed by at least twofold.

Among these genes were *phosphoserine phosphatase* (*PSPH*), which was most unregulated; *Ras-related associated with diabetes* (*RRAD*); and two genes associated with insulin-like growth factor, *insulin-like growth factor 1 receptor* (*IGF1R*) and a variant, *IMP-2*.

The *IGF1R* is a very important finding, as IGF can support the growth of cancer cells, especially endometrial cancer cells. There also may be a link between some of these differentially expressed genes and obesity, diabetes, and hormonal milieu, he said.

PSPH is an enzyme that catalyzes the last step in the biosynthesis of serine from carbohydrates, he noted. "One paper has linked it to gastric carcinoma metastasis."

The studies' conclusions do not mean that blacks and whites are genetically different, Dr. Maxwell stressed—only that the genes are differently expressed. "The genes may be structurally similar, but there may be environmental influences between the two races that result in epigenetic modulation of gene upregulation or downregulation," he said. "Genes have promoters that can be affected by environmental exposures, such as diet or hormones." ■