

UNC study provides further insight into racial disparities in breast cancer

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(PhysOrg.com) -- The results show that basal-like breast cancer is equally aggressive in African American and white women, and that African American women had worse outcomes no matter what kind of breast cancer they developed.

In 2006, a team from the University of North Carolina at Chapel Hill schools of Public Health and Medicine and UNC Lineberger Comprehensive Cancer Center found that breast cancer in younger [African-American women](#) is more likely to be the more aggressive basal-like (or triple-negative) subtype - one factor thought to be behind known racial disparity differences in breast cancer patient outcomes. This suggested that the nature of the kinds of cancer they develop may be one factor in the worse survival of African-American [women](#) with breast cancer.

In their ongoing quest to better understand racial disparities in breast cancer prognosis, a team led by Robert Millikan, DVM, MPH, PhD, has analyzed tissue from 1149 invasive breast cancer patients (518 African American and 631 White) who are participants in the Carolina Breast Cancer Study (CBCS). The CBCS is a longstanding population-based study of breast cancer risk and behavior that focuses on young and African-American women. Their findings were published Dec. 15, 2010 in the journal *Clinical Cancer Research*.

"Our data show that basal-like breast cancer is an equally aggressive disease in African American women and [white women](#). In addition,

African American women had worse outcomes no matter what kind of breast cancer they developed, suggesting that other factors such as disparities in access to care and treatment, for example for the more common subtypes of breast cancer like luminal A breast cancer, also contribute to the higher breast cancer mortality observed in African-American women," said study co-author Charles M. Perou, PhD, professor of Genetics and Pathology.

The team classified their tumors into four subtypes: luminal A, luminal B, basal-like (also known as triple-negative) and human epidermal growth factor receptor 2 positive/estrogen receptor negative (HER2+/ER-) and compared long-term survival outcomes.

The team found that breast cancer mortality was highest for patients with HER2+/ER- and basal-like breast cancers. African Americans had higher breast-cancer specific mortality than whites in all subtypes of breast cancer, with the statistically significant difference was in the most common subtype, Luminal A. In this subtype, which typically has the best prognosis, African American women had a statistically significantly worse survival than white women. "Based on these data, I am not sure we can identify a truly good prognosis subtype in African-American women, and we need to find out why" said study co-author Lisa Carey, MD, "these are treatable cancers, and whether women are getting the right drugs or getting the right care, or if there are other fundamental differences in the cancers themselves we should know about is why we have studies like the CBCS ongoing."

"This study underlines the importance of our previous recommendation that African American women, and all breast cancer patients, need the best possible diagnostic workups - including tumor typing, and access to the latest clinical trials," said Dr. Millikan, who is principal investigator of the CBCS.

"This study also showed the worst prognosis for patients with HER2+/ER- breast cancer, but was completed before the introduction of the drug trastuzumab and other targeted drugs used to treat HER2-positive breast cancers," noted Dr. Carey. "New, promising therapies are being introduced at a rapid rate and both patients and physicians should take steps to ensure that they have the latest information."

The CBCS is a population-based case-control study that enrolls women with breast cancer from 24 counties in North Carolina as cases and an equal number of women without breast cancer as controls. Women who consent to the study are interviewed about their health histories and their tumor tissue is collected. The study relies on extensive cooperation from all of the women who agree to participate, their physicians and pathologists, as well as a large number of hospitals in North Carolina.

Participants are selected from a list of newly diagnosed [breast cancer](#) patients provided by the North Carolina Central Cancer Registry (NCCCR), which identifies and registers all new cancer diagnoses in the state. All participants are selected through a scientific randomization process and thus no volunteers are accepted.

More information: clincancerres.aacrjournals.org/

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