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Drug-Resistant Breast Cancer Afflicts Blacks Scientists Look at Genes, Breast-Feeding Patterns

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Lorie Williams thought for months that she might have a lump in her breast. But when the doctor said it was cancer, she was still stunned. After all, she was just 29 years old, no one in her family had ever had breast cancer, and she had never heard of anyone getting the disease so young.

"I was just numb," said Williams, who lives in Holly Springs, [N.C.](#) "I couldn't believe it was really happening. Then I just became hysterical."

Women such as Williams have become the focus of an intense effort to solve one of the most pressing mysteries about breast cancer: Why are black women, who are less likely to get the disease than white women, more likely to get it when they are young -- and much more likely to die from it?

Now, researchers have uncovered a crucial clue: Black women, particularly young ones, get hit much more often by an aggressive form of breast cancer that is invulnerable to many of the latest treatments.

That discovery, however, has raised a thicket of new questions and an intense debate. Are black women prone to the deadlier cancer for genetic reasons? The same deadly form of breast cancer turns out to be extremely common in parts of [Africa](#) where the slave trade was centered, indicating that genes play a role. Or is it something else? Researchers have also found evidence that other factors, such as breast-feeding patterns, may be key.

The findings have prompted a flurry of research, but the intensifying effort is also raising concern among some doctors. They fear that the focus on biology is distracting from the more critical problem of eliminating racial disparities in care, and that it is reinforcing old prejudices about biological differences among races.

"There is this prejudice that blacks are genetically different than whites," said Otis W. Brawley, an [Emory University](#) oncologist. "This reinforces the mind-set that blacks have some kind of biologic inferiority."

But others argue that the emerging picture of breast cancer marks a transforming development in the battle against the disease, particularly for black women.

"It's a sea change for how we think about the problem of breast cancer in African American women," said Rowan T. Chlebowski, who studies breast cancer at Harbor-UCLA Medical Center. "It's really changing the debate."

Researchers have long thought that the reason black breast cancer patients were more likely to die was the stubborn inequities in the quality of care that minorities receive. Black women tend to get fewer mammograms, to get their diagnosis after their cancer has already spread and to receive less aggressive treatment once diagnosed, many studies have shown.

Those factors do play a significant role. But recent research has found that even when everything is equal, black women are less likely to survive.

At the same time, researchers using the latest molecular tools have discovered that breast cancer comes in at least five variations. One, called "triple-negative" because it lacks three key markers that distinguish tumors, grows quickly, recurs more often and kills more frequently. It is much harder to prevent and treat because it does not respond to the newest drugs, including those that block estrogen and targeted therapies such as [Herceptin](#).

A key insight came last year when a detailed genetic analysis of 496 breast tumors showed that a "basal-like" form of triple-negative cancer was startlingly more common among young black women, accounting for 39 percent of their cancers, compared with 16 percent of white women's.

"We found an important piece of the puzzle," said Lisa A. Carey of the [University of North Carolina](#), who led the study. "This indicates that biology is important."

Other studies subsequently confirmed the findings, including one involving more than 50,000 [California](#) women published last month that found triple-negative tumors about twice as often among black women as among white women. It also found that triple-negative is also more frequent in Hispanics than in whites, though still less common than in blacks.

Some researchers, suspecting that the higher rate among African Americans might stem from a genetic predisposition, have begun studying women in parts of Africa. They discovered that triple-negative is extremely common, accounting for some 70 percent of breast cancers in women tested in [Nigeria](#) and [Senegal](#), for example.

"This suggests that there may be a genetic contribution," said Olufunmilayo Olopade of the [University of Chicago](#), who is leading the research. "Is it because of genes common to African ancestry? Maybe there's a genetic contribution that we didn't appreciate."

If genetics is important, an individual African American woman's risk probably depends in part on her particular heritage, cautioned Lovell A. Jones, director of the center for research on minority health at the [M.D. Anderson Cancer Center](#).

"One should go back to Africa and find areas where there is a high incidence of this disease," Jones said. "This may not apply to every African American woman, if she's not from those particular areas."

Researchers are planning to study young black breast cancer patients in the Washington, [Baltimore](#) and [Chesapeake Bay](#) areas and from the parts of [West Africa](#) where the ancestors of many are believed to have originated to try to identify the specific genes involved.

"This is the first time there's been an attempt to link a U.S. health disparity to an ancestral African population," said Fatima Jackson, a [University of Maryland](#) medical anthropologist.

But other research suggests that social factors may be more crucial. One study published online this week, for example, found that women who did not breast-feed their children are especially prone to triple-negative cancer.

"Our data show that it has nothing to do with genetics but really has to do with environmental factors," said Robert Millikan of the University of North Carolina, noting that black women are less likely than white women to breast-feed.

Olopade and others suspect that the answer will probably be a combination of genes and other factors.

"We know it's probably not just the genes. It's the genes working in concert with the environment," said Olopade, who is working with a team to study women with triple-negative cancer in poor, crime-ridden [Chicago](#) neighborhoods to explore the effects of stress.

"We're looking at whether racism and violence over a lifetime might matter. That is a hypothesis that's being tested," Olopade said.

Other research suggests that racial differences may play a role in other cancers as well. Analyzing more than 19,000 patients involved in decades of clinical studies, Kathy S. Albain of Loyola University found evidence that this might be the case for prostate and ovarian cancer.

"We want to go beyond triple-negative," Albain said. "Triple-negative is not the whole story. Our hypothesis is there must be molecular, biological, pharmacogenetic and hormonal aspects involved."

Whatever the cause, the realization that black women develop triple-negative cancer more frequently suggests that current strategies to fight breast cancer are inadequate.

"The problem with mammograms is we recommend to do it once a year. But if a cancer doubles in two or three months, it would be less likely that a mammogram would pick it up for early diagnosis," Olopade said.

Because triple-negative tumors do not respond to some of the newest drugs to prevent and treat breast cancer, and to reduce the risk of recurrences, researchers are urgently trying to develop new therapies.

"We now know that this one special subtype of tumor is the bad player here. We need to understand more about the biology of this tumor so we can develop therapies against it," said Charles Perou of the University of North Carolina, who is testing experimental protocols.

But some are cautious about the idea of using race to classify people biologically.

"Racial classifications as we use them in this country are not based on biology," said Harold P. Freeman, who advises the director of the [National Cancer Institute](#) on cancer disparities. "We have to be very careful not to imply that race is a biological category, when it really isn't."

Freeman and others worry that the focus on such biological differences distracts from efforts to improve access to care, which has been shown to be a major factor.

"So much attention is being put on this problem that we may be missing other very important problems that are actually easier to address," said Brawley, the Emory oncologist. "Even if we find a great new treatment for triple-negative breast cancer tomorrow, I already have the data to show that a large proportion of black women aren't going to get it."

For their part, women such as Williams and others who have been diagnosed with breast cancer at a young age hope the focus on triple-negative cancer will help save others from being struck by the disease.

"I have nothing I can take to protect me from a recurrence," said Nicole Sudler, a Chicago secretary who was treated for the disease when she was 28. "I think about that every day. That scares me."