Ovarian Cancer Studies Aim to Reduce Racial Disparities, Improve Outcomes

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Three recently launched NCI-supported studies could help researchers better understand the causes of racial and ethnic disparities among women with ovarian cancer.

Researchers have known that African-American women with ovarian cancer, on average, do not survive as long as non-Hispanic White patients with the disease. Although the precise reasons for this disparity are not clear, studies have suggested that multiple factors may play a role, including access to health care and other socioeconomic factors.

Until recently, a lack of data on ovarian cancer among diverse populations has impeded research in this area. These new studies—which are separate but complementary—are aiming to change this by investigating the multitude of societal, biological, behavioral, and clinical factors behind the racial disparities in the disease.

One of the three studies will look specifically at disparities in the quality of cancer care among women with ovarian cancer, including whether their cancer treatment is consistent with clinical guidelines, and how this impacts their survival.

The other two studies have adopted what the researchers call a cells-to-society approach. In both cases, the researchers will assess a range of potential factors that can affect disparities, from the molecular makeup of tumors (e.g., presence of certain genetic alterations) to the neighborhoods in which women live or whether they have health insurance.

Shobha Srinivasan, PhD, the senior advisor on health disparities in NCI's Division of Cancer Control and Population Sciences (DCCPS), explained that, taken together, the three studies should provide a more comprehensive view of what causes the stark disparities experienced by African-American and Hispanic women diagnosed with ovarian cancer.

"It is important to understand the factors underlying disparities in ovarian cancer survival so that researchers can develop interventions and improve the clinical management of the disease," said Joanne Elena, PhD, an epidemiologist in DCCPS.

“The ultimate goal of this research is to eliminate disparities and improve ovarian cancer survival for all patients,” Elena added.

Investigating Racial Disparities in Ovarian Cancer

Ovarian cancer is the fifth-leading cause of cancer death among women in the United States. Over the past few decades there have been advances in the treatment of ovarian cancer, but not all racial and ethnic groups have benefited equally.

For example, between 1975 and 2016, the 5-year relative survival rate for ovarian cancer increased from 33% to 48% among non-Hispanic White women but decreased from 44% to 41% in African-American women.

Potential reasons for this disparity have been suggested by previous studies. Researchers involved in two of the new studies have previously found, for example, that African-American women were more likely than non-Hispanic White women to have a reduction in the dose of chemotherapy, a delay in treatment, and early discontinuation of therapy.

The new studies, which will use different populations of patients, data, and methods, could help fill in the current gaps in knowledge, noted Lisa Gallicchio, PhD, an epidemiologist in DCCPS.

Focusing on Access to Care

Many women with ovarian cancer do not receive the treatments recommended by professional medical guidelines, particularly for African-American and Hispanic women, explained Tomi Akinyemiju, PhD, of the Duke University School of Medicine, who is leading the study that focuses on health care access.

“Lack of access to health care is likely to be a key factor in these low [treatment] rates,” said Akinyemiju, noting that access to care is determined by many factors. For the study she is leading, the researchers have defined five dimensions of health care access: affordability, availability, accessibility, accommodation, and acceptability.

Using data from NCI’s SEER program, from Medicare, and from patient surveys, the researchers will investigate racial disparities in three main areas—whether patients receive the recommended initial, or primary, treatment for ovarian cancer; supportive care for pain and depression; and survival.

The survey component will involve more than 1,000 women with ovarian cancer across seven states. By studying women who have just completed their initial treatment, the researchers hope to better understand the barriers patients experienced, including those associated with cost of care, travel to and from doctors’ offices and hospitals for treatment, and interpersonal interactions with health care providers.

“Each of the five dimensions captures a distinct aspect of access, and barriers in one or more of these can significantly affect whether a patient receives quality care,” Akinyemiju said. “We can

also examine differences between patients who reside in rural and urban areas, and between White, African-American, and Hispanic patients.

“Lack of access to care has implications for everyone, and what we learn from this study will help us to design interventions to ensure quality care regardless of race or income level,” she added.

Cells to Society

Another of the new studies brings together several lines of research to examine interactions among multiple factors that may contribute to ovarian cancer survival disparities across racial and ethnic groups.

“It is increasingly recognized that a multitude of factors affect cancer health disparities, and these factors range from biological to societal influences,” said study co-leader Jennifer Doherty, PhD, of the University of Utah. “Rather than focusing on single factors, we are conducting a comprehensive evaluation of their interplay.”

Doherty and her colleagues will analyze detailed clinical data and tumor samples collected from approximately 4,500 women with ovarian cancer who received care through Kaiser Permanente Northern California.

The researchers will assess, for example, the characteristics of patients’ tumors (such as the presence of specific genetic alterations), patterns of treatment (such as the timing and type of surgery or chemotherapy and delays in treatment), and geographical factors (such as access to care) that may influence the care and prognosis of a woman with ovarian cancer.

“Many studies do not enroll women until several months or a year after diagnosis,” she continued. “Unfortunately, as ovarian cancer still has relatively poor survival, those studies are unable to obtain data from women who, at the time of enrollment, have already passed away, and may provide important information to understand factors influencing mortality.”

The study is being co-led by Elisa Bandera, MD, PhD, of the Rutgers Cancer Institute of New Jersey, Lawrence Kushi, ScD, of Kaiser Permanente Northern California, and Scarlett Gomez, PhD, of the UCSF Helen Diller Family Comprehensive Cancer Center.

The goal of the third study is “to better understand the complex causes of poor survival in African-American women with epithelial ovarian cancer,” said study co-leader Joellen Schildkraut, PhD, MPH, of the Rollins School of Public Health and the Winship Cancer Center at Emory University.

Schildkraut and her colleagues are recruiting 350 African-American women newly diagnosed with ovarian cancer from eight state cancer registries. Data collected on these women will be incorporated into the African American Cancer Epidemiology Study, which already includes 600 women with the disease.

In previous research, the investigators found that inflammation associated with obesity or physical inactivity, or the use of certain painkillers, such as aspirin, might affect the risk of ovarian cancer.

They also identified inherited genetic variants that might influence ovarian cancer risk in African-American women.

In the new study, the researchers will integrate information about participants' social and physical environments, such as unemployment rates and other measures of economic disadvantage, with information about the women's inflammation-related exposures and data on inflammatory pathways in their tumor tissues.

"The geographical diversity of this group and the breadth of data and biospecimens from participants will give us an unprecedented opportunity" to explore factors involved in survival differences among African Americans with ovarian cancer, said Schildkraut.

Taking Steps to Eliminate Disparities

All three new studies will help researchers to better understand why certain groups of patients with ovarian cancer do worse than others. This research is an important step toward addressing the disparities in ovarian cancer survival, noted Elena.

"Access to care," she continued, "as well as economic factors and gaps in health insurance, influence disparities, not only for ovarian cancer, but for people with many other cancers.

"By investigating biological factors, behavioral factors, and societal influences to learn which factors are driving the disparities," Elena said, "these studies can help researchers develop new strategies to improve the care of women with the worst outcomes for this cancer."

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