

Black Patients With Triple-Negative Breast Cancer May Be Less Likely to Receive Immunotherapy

However, among women who did receive checkpoint inhibitors, outcomes were similar between Black and white patients.

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In recent years, Black patients with triple-negative breast cancer (TNBC) received immunotherapy at significantly lower rates than white patients, according to results presented at the [17th AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved](#), held September 21-24, 2024.

Black women are disproportionately affected by TNBC, an aggressive subtype of [breast cancer](#) defined by the lack of three cell surface receptors. The absence of these receptors means that patients with TNBC are ineligible for many of the molecularly targeted therapies used to treat other breast cancer subtypes, explained study presenter [Jincong Q. Freeman, MPH](#), a PhD candidate at the University of Chicago in the lab of [Frederick M. Howard, MD](#).

“The lack of a treatment specifically tailored to the biology of TNBC, coupled with its typically more aggressive growth, makes TNBC particularly challenging to treat, resulting in worse outcomes,” said Howard, who is an assistant professor at the University of Chicago.

Immunotherapy has recently entered the treatment landscape for TNBC, with promising clinical trial results leading to the FDA approval of the immunotherapy pembrolizumab (Keytruda) alongside chemotherapy for patients with [PD-L1 positive, metastatic TNBC in 2020](#), and for patients with [high-risk, early-stage TNBC in 2021](#). Another immunotherapy, atezolizumab (Tecentriq), initially received [accelerated approval](#) to treat advanced PD-L1-positive TNBC in 2019, but the approval was [withdrawn](#) in 2021.

“Since 2019, immunotherapy has become a standard treatment option for TNBC, but it is mostly unknown whether there are racial/ethnic disparities in who receives immunotherapy or in the outcomes for early-stage and metastatic TNBC,” said Freeman. “Understanding these elements is key to developing strategies or interventions to ensure equitable access to immunotherapy and to mitigate the known racial/ethnic disparities in TNBC outcomes.”

Freeman, Howard, and colleagues used data from the National Cancer Database to examine the trends and demographic factors associated with immunotherapy receipt for more than 10,000 patients with TNBC.

They found that the percent of patients who received immunotherapy increased from 2017 to 2021 as follows:

- From 4.2% to 48.0% among patients with early-stage TNBC
- From 5.3% to 33.1% among patients with metastatic TNBC.

Among patients with early-stage TNBC who underwent neoadjuvant chemotherapy in 2021, 45.9% of Black patients and 48.2% of white patients received immunotherapy. This translated to an 11% lower rate of immunotherapy receipt for Black patients after adjusting for clinical factors.

The difference, however, was no longer statistically significant once the researchers further accounted for socioeconomic differences between the populations. Freeman noted that this suggests that socioeconomic factors might be the main barriers to immunotherapy access for Black patients with early-stage TNBC, but he acknowledged that the data represent an early snapshot since immunotherapy for early-stage TNBC was not approved until mid-2021.

Of the patients with metastatic TNBC who underwent chemotherapy between 2019 and 2021, 28.1% of Black patients and 35.5% of white patients received immunotherapy. After adjusting for clinical and socioeconomic factors, Black patients remained 37% less likely to have received immunotherapy than white patients, a statistically significant difference.

Among those who received immunotherapy, rates of pathologic complete responses and overall survival were similar between Black and white patients with early-stage TNBC and metastatic TNBC, respectively.

“A key finding of our study is that Black patients with metastatic TNBC were less likely than white patients to have received immunotherapy, but when they did receive immunotherapy, they had a similar overall survival rate as white patients,” said Freeman. “This tells us that receiving immunotherapy may help mitigate racial differences in the survival of patients with metastatic TNBC.”

Factors found to be associated with a lower likelihood of immunotherapy receipt in patients with TNBC were being enrolled in Medicare (16% lower rate than those with private insurance) and receiving care through a comprehensive community program (20% to 21% lower rate than those at academic/research centers).

“Expanding insurance coverage, lowering health care costs, and improving treatment distribution and access, particularly for those programs serving socioeconomically disadvantaged communities, are needed to move toward equitable access to immunotherapy across different populations with TNBC,” said Freeman.

Since PD-L1 expression is a prerequisite for pembrolizumab treatment for metastatic TNBC, Howard noted that additional research is needed to understand whether there are differences in tumor PD-L1 expression between Black and white patients that could have contributed to the observed disparities in immunotherapy receipt.

Limitations of the study included its retrospective design, the lack of information in the National Cancer Database about the immunotherapy regimens patients received, and the lack of information about PD-L1 tumor expression in different populations.

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