Breast Cancer Treatments Do Not Increase Risk of COVID-19 Infection or Death

The results challenge initial concerns that chemotherapy and other treatments were too dangerous to continue during the pandemic.

June 22, 2021 By NYU Langone Health

Cancer drugs capable of weakening the body's immune defenses are no more likely to increase the risk of coronavirus disease (COVID-19) infection or death than breast cancer therapies that do not undermine the immune system, a new study shows. Researchers say the results challenge initial concerns that such treatments, which poison cancer cells, were too dangerous to continue during the pandemic.

Led by researchers at NYU Langone Health and its Perlmutter Cancer Center, the new investigation involving more than 3,000 women treated for breast cancer at the height of the pandemic in New York City showed that only 64, or 2 percent, contracted the virus. Of this group, 10 died from COVID-19, a number the study authors say is low and expected for this age group, regardless of cancer.

Notably, those receiving cytotoxic, or cell-killing, chemotherapy were at about the same risk from coronavirus infection as those taking other classes of drugs with minimal impact on the immune system defenses.

"Our results show that patients can safely receive breast cancer therapy, including chemotherapy, during the pandemic," says study lead investigator and Perlmutter Cancer Center medical oncologist Douglas K. Marks, MD.

"As long as patients continue to take reasonable precautions such as wearing masks and social distancing, they should feel confident in continuing the treatment plan that they have chosen with their physicians," says study senior investigator and Perlmutter Cancer Center medical oncologist Sylvia Adams, MD.

Dr. Adams, a professor in the Department of Medicine at NYU Langone, notes that breast cancer remains the leading cause of cancer deaths among women in the United States and kills approximately 45,000 people every year.

At the onset of the coronavirus pandemic in the spring of 2020, lack of information regarding the risk factors for COVID-19 infection for these patients led to delays in treatment. Many physicians, the study authors say, were particularly concerned about giving standard chemotherapy regimens, potentially making patients more vulnerable to the virus. As a result, some delayed or even avoided treatment.

The new study, presenting online June 4 at the annual meeting of the American Society of Clinical Oncology, is believed to be the first large investigation to directly evaluate whether breast cancer therapies affect the risk of coronavirus infection and death, according to Dr. Adams.

For the investigation, the study researchers reviewed medical records for patients with breast cancer receiving either chemotherapy or other drug therapies from February to May 2020 at Perlmutter Cancer Center in New York City and on Long Island. The investigators then analyzed information including COVID-19 testing results, the extent of cancer, the presence of other illnesses, and survival.

Among the study results, the risk of coronavirus infection among patients with breast cancer who received chemotherapy was not greater than the risk for those who received treatments that were not expected to hinder their immune systems. Treatment also did not increase their risk of death from COVID-19.

In addition, the study showed that older and overweight patients remained at increased risk of dying from coronavirus infection, a finding in line with previous research on COVID-19 mortality, according to the researchers.

Dr. Adams, also the director of the Breast Cancer Center at Perlmutter Cancer Center, cautions that the coronavirus pandemic is rapidly evolving and that enhanced infection precautions should remain in place at cancer centers.

Dr. Marks, an assistant professor in the Department of Medicine at NYU Long Island School of Medicine, notes that it remains unclear whether these findings will hold true in the case of newly emerging variants of the coronavirus, which the research team has yet to investigate. Dr. Marks is also medical director of the cancer clinical trials office at NYU Langone Hospital—Long Island.

Study funding was provided by NYU Langone and its Perlmutter Cancer Center.

In addition to Dr. Marks and Dr. Adams, other NYU Langone study investigators were Nibash Budhathoki, MD; John Kucharczyk, MD; Nina D’Abreo, MD; Maryann J. Kwa, MD; Magdalena Plasilova, MD; Shubhada Dhage, MD; Phyu Phyu Soe, MSN; Daniel J. Becker, MD; Alexander A. Hindenburg, MD; Megan D. Winner, MD; Chinyere Okpara, MS; Alison Daly, MD; Johanna Lee, MPH; Darshi Shah, BS; Angela Ramdhanny, MD; Marleen I. Meyers, MD; Ruth Oratz, MD; James L. Speyer, MD; Yelena Novik, MD; Freya R. Schnabel, MD; and Simon A. Jones, PhD.

This press release was originally published by NYU Langone Health on May 19, 2021.

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