How Does COVID-19 Affect People with Cancer?

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How Does COVID-19 Affect People with Cancer? NCCAPS Will Help Find Out

By James H. Doroshow, MD

With the sudden explosion of the COVID-19 pandemic, we are all living with a great deal of fear, uncertainty, and anxiety. As an oncologist and cancer researcher, I know that those feelings are heightened for many people with cancer.

People with cancer are already facing the shock of a cancer diagnosis, the tribulations that accompany treatment, or the stress of survivorship. On top of that, we're learning that people with cancer may be at higher risk of severe illness from COVID-19 because their cancer, or its treatment, has left them more vulnerable to complications.

NCI remains committed to our vital mission of cancer research and is working diligently to meet the needs of cancer patients during the COVID-19 pandemic. That's why today we have launched a long-term, nationwide study, called NCI COVID-19 in Cancer Patients Study (NCCAPS). y We plan to expand the study later to include children with cancer and COVID-19.

NCCAPS will help scientists answer key questions about COVID-19's impact on cancer patients, as well as cancer's impact on the course of COVID-19. The findings have the potential to influence the treatment of cancer patients with COVID-19 in the future.

We hope to enroll 2,000 patients at more than 1,000 sites across the United States, and we strongly encourage any and all NCI-funded clinical trial sites to participate, especially sites reaching minority, underserved, and rural populations and sites in areas with a high incidence of COVID-19.

The Cancer Trials Support Unit, a service of NCI that works with clinical sites to support day-to-day operations of trials, is assisting with this study.

NCI COVID-19 in Cancer Patients Study

NCCAPS is a natural history study of COVID-19, which means that we will track how the disease develops and changes. Researchers are collecting information about patients' medical history, cancer history and treatment, and COVID-19 treatment.

The study isn't testing a new treatment. The cancer and COVID-19 treatments that participants receive is left up to their doctors and taking part in the study will not change the medical care for either disease.

Our goal is to recruit a large number of cancer patients of all ages who have COVID-19. To participate, patients must be getting cancer treatment (chemotherapy, targeted therapy, immunotherapy, and/or radiation therapy) or follow-up care after treatment that requires them to regularly visit a health care facility.

Patient safety is our top priority, and participation in this study doesn't require extra visits to the doctor or hospital. Much of the data is being collected electronically from medical records, and some of the test results that we're collecting are part of patients' routine care.

Because it is important to have a diverse group of study participants, we are putting an emphasis on recruitment in rural and minority populations. We need to know as much about the impact of COVID-19 on cancer patients in Montana as we do about those in New York, and we need to learn about its impact on African American patients as well as on white patients.

Having a large and diverse group of patients will allow study investigators to generate a lot of data on key characteristics, including the type of cancers participants have, the treatments they are receiving for cancer and for COVID-19, the symptoms they are experiencing, the course of their COVID-19, and whether they recover from COVID-19.

A unique characteristic of NCCAPS is that we are collecting blood samples and copies of routine imaging scans for up to 2 years. Blood samples are being collected when patients are already having their blood drawn for cancer or COVID-19 treatment. Likewise, we're collecting copies of images or scans patients are getting as part of their COVID-19 or cancer care.

With copies of a variety of imaging scans (like CT scans and MRIs) we can try to understand the full impact of COVID-19 on the entire body, not just in the lungs. For instance, some routine imaging studies visualize blood clots in cancer patients. In light of emerging evidence that COVID-19 may cause blood clots, such scans will be an important resource.

How Does COVID-19 Affect Cancer Outcomes?

There is a lot we don't know about COVID-19 and cancer. NCCAPS is investigating how COVID-19 affects cancer treatment and outcomes, and vice versa.

Some questions we hope to address are:

- Does COVID-19 change how cancer grows or spreads?

- Are people with particular types of cancer more severely affected by COVID-19?
- Does cancer treatment affect people's ability to fight off COVID-19?
- For how long is cancer patients' quality of life impaired by COVID-19?

Another goal is to find risk factors related to serious illness from COVID-19 in people with cancer. We are carrying out a very detailed, in-depth evaluation of biomarkers that are associated with severe COVID-19 outcomes. Identifying biomarkers would allow us to, in the future, identify those who need more aggressive treatment or prevention measures.

For instance, study investigators are looking for genetic risk factors that are associated with severe symptoms and death from COVID-19. Scientists in NCI's Division of Cancer Epidemiology and Genetics (DCEG) are doing genetic sequencing and other genetic analyses of participants' blood samples. This work ties into a larger effort by DCEG to investigate the genetic determinants of COVID-19 susceptibility and outcomes.

We are also monitoring participants' immune responses to COVID-19, including levels and types of antibodies, immune cells, and cytokines. With these data, we are looking for immune-related biomarkers that are associated with severe symptoms or death from COVID-19.

To make more research possible, the blood samples and data we gather are being made available to researchers in ways that protect patient privacy. Blood samples and data are being stored in a biobank or database that is supported by NCI and has controlled access. These samples and data could be used in future research on COVID-19 and cancer.

From Idea to Launch in Six Weeks

I'm incredibly proud of NCI's ability to adapt our clinical research infrastructure during this national emergency and the pace at which we have been able to do that. A study this large and complex would typically take more than a year to plan and implement, but through dedication and perseverance, NCCAPS went from an idea to full launch in 6 weeks.

The credit for this herculean effort goes mainly to the study's co-leaders, Larissa Korde, MD, of NCI's Cancer Therapy Evaluation Program (CTEP), and Brian Rini, MD, chief of clinical trials for Vanderbilt-Ingram Cancer Center, as well as Andrea Denicoff, RN, MS, also of CTEP. But there are many others who have contributed and continue to contribute—nearly every division, office, and center within NCI is involved in this study.

I am also very heartened by the enthusiastic response of many NCI-funded clinical trial sites and their eagerness to collaborate on this study as well as carry out their own studies of COVID-19 in cancer patients. We know that clinical trial sites want to participate in this resource-intensive study, so NCI will reimburse participating sites for accrual to the same extent as a therapeutic trial.

Together we will learn as much as we can about COVID-19 in adults and children with cancer, and

we will do everything we can to protect and treat our most vulnerable patients.

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