

COVID-19 IN FOCUS

Current Developments in Oncology and Coronavirus Disease 2019

Providing Oncology Care During the COVID-19 Pandemic



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H&O What has it been like practicing oncology in Washington state over the past few months?

GL Most of my insights are based on the experiences of my colleagues, as I am considered to be in the most vulnerable population because of age and underlying medical conditions and therefore am not going to my office. I am in daily contact with colleagues, however, both to find out how people are doing and to provide advice and consultation. I am also engaging with patients remotely.

The coronavirus disease 2019 (COVID-19) pandemic certainly is complicating life, to say the least. Like most people across the country, everybody here in Seattle is hunkered down as much as possible. We are hoping that we have seen the worst of the pandemic, but the crisis is still very challenging in the hospitals and clinical facilities. Right now it is mid-April and our hospital beds are at or near capacity. Fortunately, the data suggest that we will not exceed our capacity in the state. We have had enough ventilators so far, and the governor was even able to return 400 ventilators to the national stockpile because other states have a bigger need right now. New York and New Jersey are in an incredibly difficult situation currently, and many other areas throughout the country are soon to see the worst of this.

On a day-by-day basis, we are now providing as much care as possible remotely. Telemedicine was previously reserved for patients who could not travel to the clinic, but has quickly evolved to become a standard approach for patients who can be evaluated remotely or are not ill enough to require in-person consultation.

H&O What are the special concerns for people with cancer during this pandemic?

GL Cancer patients are among those at the very highest risk from COVID-19. One big concern with cancer patients is that chemotherapy and other cancer treatments will leave them more susceptible to COVID-19 and its complications. This risk exists during chemotherapy, and it probably lingers afterward. We also know that certain cancers compromise the immune system and put patients at increased risk for infection even without treatment. Lymphoma, chronic leukemia, and even certain advanced-stage solid tumors have a general effect on the body's immune system. Another big concern is that simply by receiving care in a medical facility, patients might be exposed to the virus by an asymptomatic carrier.

H&O How often are cancer patients having their treatment delayed or interrupted?

GL We do not yet have hard numbers, but if I had to guess I would say that approximately half of patients will have their treatment delayed or modified until we get past the peak of the pandemic.

H&O How can oncologists go about weighing the risks vs benefits of postponing or interrupting cancer treatment?

GL This is a very complicated issue, and one that requires a detailed discussion between the oncologist and the patient. We need to evaluate the balance between the potential risks from interrupting chemotherapy and the potential risks from COVID-19.

Delaying cancer treatment is just not an option for many patients, such as those with acute leukemia, aggressive lymphoma, small cell lung cancer, or spinal

cord compression caused by a tumor. These are all examples of oncologic emergencies. For other patients, however, a delay of a few weeks may not meaningfully compromise long-term outcomes.

One alternative to postponing treatment in certain patients may be to adjust the type of treatment. For example, our standard of care for patients with hormone receptor–positive breast cancer is to administer chemotherapy after surgery, and begin endocrine therapy later. But during this crisis, we may want to use endocrine therapy up-front because it does not compromise the immune system, and administer chemotherapy later if appropriate.

Because cancer patients are at such high risk for poor outcomes, we want to learn in real time what types of approaches might be working.

This is not usually how we treat these patients, but it is a reasonable approach during this crisis.

Another real-life adjustment applies to situations in which we traditionally have used treatments that provide relatively modest incremental gains. An increase in 5- or 10-year survival of 2 or 3 percentage points may be worthwhile under normal circumstances, but that equation may change in the midst of active community transmission—and even more so if the patient tests positive for COVID-19. Finding the right balance is challenging, and we make every effort to individualize treatment and factor in the patient's own thinking about risk. Is this a patient who is more concerned about the immediate risk from COVID-19, or someone who is more concerned about the long-term risk from the cancer? Many patients understandably fear the future risk of cancer recurrence more than the immediate risk posed by the virus. These are not easy decisions, and we do not have a crystal ball. But we are learning rapidly, and as time goes on we are better able to guide our patients based on evidence and knowledge gained from experience.

We conduct COVID-19 testing in all of our cancer patients who are being evaluated for treatment. Until we have those results, we assume the person is infected. We are extremely fortunate here at the University of Washington because as soon as the US Food and Drug

Administration permitted it, we began doing on-site testing here at our laboratory. Patients go through a screening process before they can enter the building that involves taking the person's temperature, asking about any possible symptoms, and asking about travel and contact with any infected people. All patients are approached as if they are infected in terms of distancing, gloves, masks, et cetera. If there is any question about infection, we do COVID-19 testing on the spot and are able to get test results reasonably quickly. The system is not perfect, but it has worked very well, and we have had very few outpatients diagnosed with COVID-19 enter our facilities.

If patients test positive, or if they have significant symptoms or radiologic evidence consistent with COVID-19, we generally instruct them to isolate and manage them as outpatients unless their symptoms are severe enough to require hospitalization. In the hospital, we provide supportive care such as supplemental oxygen and offer enrollment in clinical trials.

After patients pass through screening and enter the building, they are still required to maintain social distancing from other patients. Patients and staff are also using appropriate protective equipment, including masks. Social distancing between the patient and the healthcare provider may not be possible throughout the entire visit, but is followed whenever possible. We have had a couple of staff members test positive for COVID-19, but now we are all in the routine of protection and social distancing.

Patients with cancer who test positive for COVID-19 are still eligible for cancer treatment if it is urgent, but we try to delay or modify treatment so it does not overlap with the period when the infection may get worse. If the patient has a fever or other symptoms, we try to hold off until these improve.

Whether the patient with cancer tests positive or negative for COVID-19, the staff will proceed with cancer treatment only if the patient has a full understanding of the risks of treatment vs postponement. After treatment, we do as much monitoring as we can via telemedicine. If the patient has mild or sometimes even moderate symptoms from a chemotherapy infusion, for example, we try to manage those remotely. If the patient needs a prescription, we can put that in without an in-person visit. Only if the problem is more severe do we bring the patient back for an evaluation or recommend an emergency room visit.

As we all know, emergency room visits have become a nightmare across the country. The situation has been less pronounced here in Washington because the patient load has not exceeded our capacity. But visiting an emergency room puts the patient in contact with multiple people, from the ambulance workers or drivers to the other people in the waiting room.

H&O What other advice do you have for people with cancer during this pandemic?

GL One of the things I tell my patients during telemedicine visits is to take good care of their health. All the general measures people need to take to stay healthy and have a good immune response apply just as much to people with cancer. That means eating a nutritious diet and getting exercise, both of which are complicated by the pandemic. Even during a lockdown, when people need to stay at home as much as possible, I encourage patients with cancer to go outside and get some exercise and fresh air. Of course, going outside means practicing social distancing, wearing a mask, not touching one's face, and washing one's hands afterward. Another important component is sleep. I cannot emphasize enough how important sleep is to the immune system, even though getting enough sleep can be difficult in a stressful situation such as the one we are dealing with.

H&O Could you describe the global registry of cancer patients during this pandemic?

GL I am on the steering committee of a national—and now international—registry to track how patients with cancer and COVID-19 are being managed and how they are faring. The registry, which is called the COVID-19 and Cancer Consortium (CCC19; www.ccc19.org), has more than 90 cancer centers and other institutions enrolled. Another 60 or 70 institutions are in the process of joining, which requires a registration process as well as approval from the local institutional review board in some cases. We want to learn what treatment approaches are being used, and the impact of factors such as age and comorbidities on outcomes in these patients.

The registry began in the United States, and now involves international sites as well. We are also speaking to professional organizations in Europe, Asia, and South America. Because cancer patients are at such high risk for poor outcomes, we want to learn in real time what types of approaches might be working. The registry also will provide important information for launching future intervention trials. To launch these trials optimally and quickly, we need to know as much as we can about cancer and COVID-19.

If your institution is registered, data on your patients is entered into a data repository called Research Electronic Data Capture (REDCap) that is used by more than 4000 institutions around the world.

We are currently in the process of reviewing the initial data reported by participating sites. We still need to get more patient data, but everything that we learn will quickly be distributed via professional publications and

social media. We have not had much data up to this point on the best way to manage these patients, and we want to have evidence to support everything we are doing.

The process of setting up the registry is based on the type of crowdsourcing that has come out of other international crises, such as earthquakes. It moved extremely quickly, thanks to social media, and we formed a steering committee within 2 days of beginning our discussions. Nobody is funding this registry; it has truly been a grassroots global effort with leadership from Dr Jeremy

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Warner at Vanderbilt University, which houses the REDCap data repository. The National Cancer Institute will also be collecting data, but we wanted to begin the process as soon as possible. There is a true sense of urgency among everybody involved because patients are dying every minute of every day.

H&O What other registries are in the works?

GL The American Society of Clinical Oncology, the American Society of Hematology, and the European Society for Medical Oncology, among other organizations, have registries that include some additional data elements that are specific to their areas of interest. We have shared our data elements with these organizations, and hope that we will be able to harmonize and share results as time goes on.

The CCC19 registry is designed to be very fast and simple to use in order to quickly collect as much information as possible. At the same time, we have embarked on a somewhat deeper registry at our cancer center here in Seattle. As a research center, we are hoping to answer some additional questions by capturing even more detailed information about patients. Other institutions have expressed an interest in doing the same thing, and we are sharing with them what we have been doing here.

H&O Where else should oncologists be looking for updated treatment guidelines?

GL I also sit on a panel for the National Comprehensive Cancer Network, where we just updated, on an interim basis, our guidelines for supportive care of patients who have cancer during the COVID-19 pandemic. These guidelines provide specific recommendations regarding management of neutropenia and infections. We also needed to adjust our recommendations on bleeding and transfusions because of the severe shortage of blood products.

H&O What advice do you have for other oncologists across the United States who are maybe a month behind or a couple of months behind where Washington state is?

GL Be prepared, of course, which is easier to say than do. Testing is critical; physicians cannot know the scale of the problem in their community without widespread testing. In many parts of the country, however, testing is not available to any but the sickest patients. We believe that anywhere from one-quarter to one-third of transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is from asymptomatic patients.

Physicians who live in an area where there is resistance to social distancing should contact their local leaders and encourage them to take the necessary measures to halt the spread of the virus. This is part of being a good citizen.

SARS-CoV-2 is one of the most contagious viruses we have dealt with, as well as one of the most serious, with a mortality rate perhaps 10-fold greater than that of seasonal flu. This will all change when we have a vaccine,

but that is not coming anytime soon. So delaying cancer treatment when possible is a rational strategy, and one we continue to encourage. But when and how long to delay? These are the big unknowns.

In the meantime, I recommend following the example we have set here at the University of Washington and the Seattle Cancer Care Alliance, which is to treat every patient and staff member as potentially infected. One of the big issues that has made this approach so challenging is the limited supply of personal protective equipment, which has been a pervasive problem across the United States. Our entire health system has been hampered by inadequate supplies of masks, gowns, gloves, and face shields, with disastrous consequences for patients and healthcare workers. Dozens of healthcare workers across the country have died after contracting the infection while caring for patients. We still have a long way to go as a profession, a nation, and a global community in controlling this pandemic.

Disclosures

Dr Lyman has no relevant disclosures.

Suggested Readings

Desai A, Warner J, Kuderer N, et al. Crowdsourcing a crisis response for COVID-19 in oncology [published online April 21, 2020]. *Nature Cancer*. doi:10.1038/s43018-020-0065-z.

National Comprehensive Cancer Network. Infectious disease management and considerations in cancer patients with documented or suspected COVID-1. v.1. https://www.nccn.org/covid-19/pdf/COVID_Infections.pdf. Posted April 11, 2020. Accessed April 14, 2020.

National Comprehensive Cancer Network. NCCN hematopoietic growth factors short-term recommendations specific to issues with COVID-19 (SARS-CoV-2). https://www.nccn.org/covid-19/pdf/HGF_COVID-19.pdf. Accessed April 14, 2020.