

Training Oncologists in the Time of COVID-19

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As a teaching case, it was similar to others we had discussed in the prior 3 months. An older woman initially presented to our gastrointestinal oncologists with a bleeding small bowel mass for which she had already been hospitalized multiple times. She had widespread metastatic disease, including an asymptomatic brain metastasis. When a core biopsy unexpectedly returned a diagnosis of melanoma rather than adenocarcinoma, there was cause for cautious optimism. Dual-checkpoint blockade of programmed cell death protein-1 (PD-1) and cytotoxic T-lymphocyte antigen 4 has a >20% complete response rate in patients with advanced melanoma [1] and durable survival in some people with brain metastases [2]. She was among the few with metastatic disease to have a therapy that could reliably extend her life and alleviate her symptoms, albeit with significant risks of immune-related adverse events. Unfortunately, although all cancer diagnoses are ill-timed, hers was particularly so: it was early spring, and we were at the height of the SARS-CoV-2 pandemic in New York City, the epicenter of the American crisis.

With this backdrop, we conducted her visit in the manner of our new normal. We—the fellow and attending—discussed her history, workup, and treatment plan over the phone, before conducting her visit over video conference, rather than face-to-face in the clinic. When cases of COVID-19 began to sharply rise in New York City and neighboring Westchester County in mid-March, the logistics of patient care at our hospital, like all hospitals in the city, changed rapidly.

Outpatient oncology appointments were expediently converted to remote encounters using phone and video conferencing. Intravenous infusions of PD-1 inhibitors such as nivolumab and pembrolizumab with long pharmacodynamic half-lives [3] were spaced apart, and any treatments that could reasonably be delayed, such as adjuvant therapy for stage III resected melanoma, were.

This urgent conversion of clinic infrastructure necessitated a re-examination of our routine assumptions of how we provide oncological care, from the scans we regularly order, the frequency with which we see patients, and the

treatments we provide. In this unprecedented time, it is also natural to ask: is a medical oncology fellow an “essential worker?”

In mid-March, to minimize the risk of asymptomatic carrier spread of infection to patients and preserve the workforce for potential inpatient redeployment, medical oncology fellows were asked to refrain from direct patient care in outpatient clinics and instead work remotely from home. For attending physicians, incorporating a fellow at home while maneuvering the challenges of caring for patients with cancer during a city-wide lockdown is a feat that requires genuine dedication to teaching. A reduction in on-site support staff means there may not be help available to troubleshoot unfamiliar technology, much less to conference in a remote fellow. Having difficult goals of care conversions over the phone or video is also challenging enough without the addition of a fellow in a different location. Recognizing these barriers, many fellows do not wish to burden attendings by asking to be included from a distance.

Furthermore, many subspecialty medicine trainees both at our institution and nationwide are asked to serve as essential frontline providers in the intensive care, emergency department, and inpatient floors. When not redeployed, it may seem reasonable to allow fellows time for “self-directed learning,” rather than mandate inclusion into the new, virtual framework that represents our reality. With fewer cancer-directed treatments given, many may also feel that optimizing strategies to ensure patient and medical staff safety during this crisis should be prioritized over the teaching, education, and professional development of medical oncology fellows.

Nevertheless, times of crisis are also invaluable opportunities to interrogate the bedrock assumptions we make in “routine” care. In most people who have metastatic disease, cancer is by far the most likely cause of death or morbidity. When stakes are that high, it is difficult to account for the toll our decisions may have on the broader health system. In the present time, directing patients to the emergency room not only places them at risk for significant harm

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but also adds burden to the strained health system in New York, where every ventilator, hospital bed, face mask, and provider needs to be conserved. Every intravenous treatment, radiographic procedure, and blood draw we recommend puts several people in harm's way and may draw resources away from more urgent COVID-19-directed efforts. Each decision we make must therefore be in the context of the broader community, one universally affected with reduced health care resources. As difficult as these decisions are, they are important ones for oncologists in training to help make.

In a seismic time when no decision can be considered rote, there is actually new urgency with which we must learn, and teach, our trade. The current crisis mandates that we re-examine whether our therapies meaningfully extend or improve our patients' lives. This is the time to scrutinize the evidence behind our treatments and acknowledge the limitations—and even futility—of our treatments. The assumptions from our seminal papers that inform “routine” cancer care in the U.S.—that cancer is the most urgent threat to one's health—may not be applicable in a time of scarcity. Another urgent priority is learning to provide oncologic care via telemedicine, which will undoubtedly persist long after the acute phase of the pandemic has passed. Conversations that were already challenging in person—discussing the risks and benefits of therapies, describing scan results with progressive disease, evaluating intractable symptoms—have an additional layer of complexity when conducted remotely. As we all struggle to adapt to conversations like these or end-of-life discussions over video and phone, we have an obligation to teach the future generation of oncologists how to do this as well.

Thus, in weekly clinics, our fellows discuss new cases like our older patient with recently diagnosed melanoma over the phone with attending physicians. We debate whether her age, which puts her at higher risk of mortality if she were to acquire COVID-19 [4], should be a factor in de-escalating her planned treatment. We consider whether her ongoing anemia and brain metastasis is enough to justify having her come in every 3 weeks for dual-checkpoint blockade, which has a higher response rate but also a much higher risk of requiring secondary immune suppression [5], instead of every 4 weeks for PD-1 monotherapy. We scrutinize down to the percentage the risks of hospitalization associated with prospective treatments,

knowing that such hospitalizations will painfully separate patients from their loved ones. We measure what we know—the higher objective response rate and prolonged progression-free survival of dual-checkpoint blockade, derived from large, randomized trials—against what we do not know, of how high is her risk of acquiring COVID-19 while receiving cancer treatment, and whether requiring several weeks of high-dose steroids on treatment will exacerbate these risks. In the end, we and the patient chose dual-checkpoint blockade, but the conversation leading to the decision was unlike any we had before.

This global crisis will not be short lived; the ability to rigorously train the next generation of oncologists must not continue to be a casualty of the pandemic. The prospect of prolonged social distancing is no longer a specter but rather a concrete new “normal” for the foreseeable future. The proliferation of telemedicine is likely a permanent fixture in oncology clinics, one that must be deliberately addressed and incorporated in our trainees' education. While oncology fellows may continue to be needed on the frontlines of the COVID-19 response, when possible, they should be re-engaged in their professional development. Just as the care of the patient with cancer has adapted to these unprecedented times, so must the training of the next generation of oncologists.

These are likely the most teachable moments we will have in our lifetimes; we will be better oncologists if we share them together.

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