

## Letter to the Editor

# Follow-Up and Management of Patients With Head and Neck Cancer During the 2019 Novel Coronavirus (SARS-CoV-2) Disease Pandemic



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## Introduction

The coronavirus disease 2019 (COVID-19) pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has upended normal life around the world. Patients with cancer constitute a particularly vulnerable population during this outbreak owing to their potentially compromised immune systems and the frequency of their health care visits. Significant risk factors for death in patients with SARS-CoV-2 infection include older age (>60 years) and those with other serious ailments including chronic respiratory disease and cancer.<sup>1</sup> The United States Centers for Disease Control and

Prevention (CDC) estimate a 3% to 11% fatality rate for persons aged 65 to 84 years and 10% to 27% for persons aged  $\geq 85$  years.<sup>2</sup> Several groups have shared their approach to managing patients with cancer during this global outbreak.<sup>3,4</sup> These recommendations focus on the management of patients currently undergoing cancer therapy. Filippi et al, reporting on their experience in Italy, recommend that follow-up visits be postponed.<sup>3</sup>

Based on the experiences in outbreak epicenters (Wuhan, China, and the Lombardy region in Northern Italy) and outbreak projections, it is likely that social-distancing restrictions will be in place for several months. Many hospitals are cancelling all nonurgent clinic visits,

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operations, procedures, and imaging studies for patients with cancer. Physicians are being asked to prioritize their schedules and determine whose procedures can be safely postponed or converted to a telehealth visit and which patients require in-person follow-up, in addition to being encouraged to consider hypofractionated regimens, single-fraction palliative treatments, and approaches to minimize the required visits while still providing appropriate treatments.<sup>5-10</sup> Such recommendations require a disease-specific approach because the risk and trajectories for tumor recurrences differ among the cancer types. An explicit example would be the follow-up for patients with prostate versus head and neck cancer (HNC).

Patients with HNC have several unique considerations compared with patients with cancer in other sites. First, some centers are seeing an increase in radiation therapy volume for patients with HNC owing to the shuttering of operating rooms for both elective and, in some cases, curative HNC operations deemed urgent (level IIIA) by the Centers for Medicare and Medicaid Services.<sup>11</sup> Second, in-person management of acute toxicities must now be done via telemedicine where possible and is a challenge if patients require intensive symptom control, adjustment of maxillary or oral prostheses, and speech language pathology assessments, to name a few. Additionally, the standard head and neck physical examination, including mirror examination and nasopharyngolaryngoscopy (NPL), is an aerosolizing procedure and must be reserved for only those cases in which the information to be gained is essential to the care of the patient. There are many other HNC-specific management challenges discussed later.

Here, we sought to share our approach to these issues in patients with HNC to provide insight into some approaches to prioritization during this and future epidemics (Table 1).

## Proposed Approach

### During treatment

Conventional radiation therapy regimens for adjuvant or curative treatment of HNC extend for 6 to 7 weeks. On-treatment visits are a critical component in the management of the acute toxicities of radiation therapy treatment. Mucositis, odynophagia, and dermatitis are common consequences of radiation and can be severe, requiring close surveillance and supportive care. On-treatment visits occur weekly and often occur in conjunction with in-person visits with a nurse, a dietician, and a speech or language therapist. Patients with HNC often have or develop a cough or sore throat during treatment, which triggers screening protocols for COVID-19. Given recent

changes in recommendations for mask use in the United States, it is reasonable for all patients with HNC to wear a mask when in public.<sup>12</sup>

Several opportunities to minimize face-to-face contact exist. Especially during the first few weeks of treatment, patients can be managed via phone visits either in the department or out of the department. As some cancer centers restrict entrance to patients only, phone visits conducted when the patient is at home allow for participation of family members and minimize hospital-based exposure; video calls enable a limited examination as well to assess dermatitis and mucositis. Phone visits may need to be supplemented by an in-person assessment by a clinician in the clinic to perform a focused examination or provide medications. It is important, where possible, to have an on-site clinician, whether a nurse, physician, or advanced practice provider, to address any urgent patient concerns when they present to the radiation therapy department. Any provider with close patient contact should use proper personal protective equipment (PPE; the definition of this is rapidly changing as incidence of SARS-CoV-2 infection and availability of PPE evolves). Using a phone or dedicated telehealth visit, health care providers can offer medical advice relating to oral hygiene, nutrition, and speech or swallow rehabilitation. The on-site therapist or nursing staff can complement these visits and provide daily feedback to the physician about changes in the patient's symptoms. If need be, verbal orders for step 1 analgesia (ie, nonopioid analgesics) and oral and skin care can be given by the physician to the patient or via the frontline staff such as the therapist, nurse, or on-site physician in the clinic on that day as an intermediary over the phone. Later in the treatment course (week 4 onwards), with the expected incremental toxicities related to radiation therapy, the consultations with the physicians can be converted to face-to-face visits, and meetings with the dietician can be safely and easily maintained as telehealth visits. Speech and language pathology visits can be maintained over the phone but face the challenge of the pathologist being unable to visually assess the patient during tests such as the cough response to swallowing various consistencies.

During the face-to-face consults, appropriate protective measures must be in place to avoid patient-to-health care worker (HCW) transmission.<sup>13,14</sup> In this instance, the level of protective measures will depend on whether the patient is suspected of being infected by SARS-CoV-2 and if invasive procedures (NPL, brachytherapy, biopsy, etc) have to be performed.<sup>15</sup> These scenarios would be considered high risk for SARS-CoV-2 transmission, and the HCW consulting the patient would require full PPE consisting of an N95 mask, surgical gown, gloves, and goggles and a face shield.<sup>16</sup> The ability to perform such aerosolizing procedures will be influenced by the availability of PPE, which is currently in short supply in many centers. A shortage of appropriate PPE may lead to an

**Table 1** Evaluation and follow-up of patients with head and neck cancer and alternative approaches to in-person visits

Time point	Medical acuity 0: very low 5: very high	Alternatives to in-person visit
During treatment	3-5	Telehealth, especially during the first several treatment weeks, may be appropriate. Because patients are available daily, a low threshold to convert to an in-person visit is recommended.
0-1 mo	0-2	Telehealth check-in to assess nutrition and recovery from therapy
2-3 mo	Definitive: 4-5 Adjuvant: 1-2	Imaging only for appropriate patients; clinical correlation requires in-person visit; reschedule in-person visit for next reasonable time frame
4-24 mo	3	Alternate imaging and physical examination; reschedule in-person for next reasonable time frame
25-60 mo	0-1	Telehealth and reschedule in-person visit for next reasonable time frame
>60 mo	0	Telehealth, reschedule in-person visit for next reasonable time frame

Medical acuity during treatment refers to management of side effects. Medical acuity posttreatment refers to both side effect management and cancer control monitoring.

overreliance on imaging or require referral to a site with a negative pressure room and available PPE.

### Posttreatment follow-up

After the completion of treatment, any patient with direct contact with a SARS-CoV-2 infected individual or who has personally tested positive or has symptoms of COVID-19 should not be seen in an oncology clinic for a follow-up visit. The management of these patients is a rapidly evolving area, and physicians should refer to local guidelines regarding testing and return to routine care in the absence of cancer-related symptoms. The following recommendations will need to be weighed against the local prevalence of SARS-CoV-2 infection and patient risk factors for severe morbidity and mortality associated with infection.

#### Within 1 month of treatment completion

The majority of patient visits during this time can be managed at home. Depending on the treatment intensity, some patients with HNC will require close surveillance in the immediate period after radiation therapy. Although not all clinics routinely schedule follow-up visits in the 3 to 6 weeks after completion of treatment, these visits should be carefully considered. Patients treated with concurrent chemoradiation therapy will likely require close monitoring for wound recovery secondary to severe dermatitis, hydration status owing to poor intake from severe mucositis, and pain control. Intravenous hydration will require in-person interaction with the health care team. However, for many patients and particularly for the subset of patients who are treated with radiation therapy alone in the adjuvant setting (eg, salivary cancers) or with short-course radiation therapy to a small target volume (eg, T1N0

glottis cancer), telehealth visits are preferred to minimize risk to the patient and the health care team. Based on telehealth visits, patients can be recalled for in-person visits based on medical necessity. Where possible, video capability is helpful to visually assess the patient.

#### Eight to 12 weeks after completion of treatment

For patients treated with definitive radiation therapy or chemoradiation therapy or those undergoing reirradiation, this is a typical time frame for posttreatment imaging studies to evaluate the adequacy of tumor response to treatment and determine whether posttreatment neck dissection or surgical salvage is required.<sup>17,18</sup> Given the importance of the data obtained at this time point, it is our opinion that effort should be made to complete posttreatment imaging that has the potential to influence treatment decision-making. Any delay in imaging beyond standard 12-week posttreatment timing should be limited. It is possible that the imaging studies will provide sufficient information to forgo a physical examination, like in the instance of a definitive complete response. When it is challenging to distinguish between posttreatment edema and residual tumor on imaging, a detailed physical examination including endoscopy may be required, and as aforementioned, full PPE is required to protect the HCW from transmission of SARS-CoV-2 through aerosolization during NPL. This examination should not be undertaken lightly during the SARS-CoV2 outbreak. If an endoscopic examination is required, we recommend that this is coordinated with the relevant clinician who may be involved in the patient's next phase of care to minimize the number of times the procedure is performed. For example, if post-radiation surgery may be required, the endoscopic examination should be coordinated with the head and neck surgeon.

For patients treated with adjuvant radiation or chemoradiation, the importance of this visit is less well-defined because there is limited guidance on the value of imaging in the adjuvant setting. Data from multiple randomized studies indicate that about half of patients who recur after receiving adjuvant radiation do so in the first 6 to 12 months.<sup>19-22</sup> In these patients, it is reasonable to delay an in-person visit until the pandemic in the local environment has subsided. This decision should be individualized to each patient's risk and symptoms. However, in the high-risk subgroup of patients who had a positive resection margin or features of extracapsular extension on surgical pathology, there should be a very low threshold for an in-person visit in patients who report symptoms during a telehealth follow-up.

### Follow-up from 3 to 24 months

A comprehensive physical examination, and to a lesser extent imaging, is a critical part of standard follow-up for patients with HNC. However, given the risk of NPL, we propose that it may be reasonable to alternate surveillance methods between physical examination and imaging during an outbreak. National Comprehensive Cancer Network guidelines recommend follow-up every 1 to 3 months in year 1 and every 2 to 6 months in year 2.<sup>7</sup> Many centers alternate these visits between radiation oncology and otolaryngology. In the short term, it is reasonable to convert in-person evaluations to telehealth visits. The presence of any symptoms that are concerning for recurrence should warrant urgent in-person evaluation. During the first year, patients should be seen face-to-face no less than every 6 months, and at the earliest indication of pandemic disease control in the community, all patients should return to regular follow-up intervals.

### Follow-up years 2 to 5

The majority of recurrences in patients with HNC occur within the first 2 years. Postponing visits in years 2 to 5 posttreatment is reasonable; if the next follow-up is scheduled within 8 months of a previous in-person visit, it is reasonable to see the patient at this time. If more than 8 months will elapse between visits, we would recommend scheduling a follow-up at the next available time.

### Endoscopy and mirror examinations

Fiberoptic endoscopy (ie, NPL) plays a key role in the evaluation of patients with HNC. Owing to the respiratory tropism of the SARS-CoV-2 virus, these examinations likely involve a higher risk of transmission than do most physical examinations. Many hospitals are now requiring all patients undergoing aerosolizing procedures (often

defined as intubation or bronchoscopy) to test negative for SARS-CoV-2 infection before the procedure. We are currently unaware of any clear recommendations regarding this issue for patients with HNC, but this is a clearly rapidly evolving area, and it is our opinion that this should be strongly considered. It is important for head and neck oncologists to use appropriate PPE during these examinations, including appropriately sized N95 respirators, face shields, gloves, and gowns. Any equipment covered in sputum expectorated during the examination of patients should be sterilized or disposed of appropriately. Until additional guidelines are developed, fiber-optic equipment should be sterilized according to institutional best practices. Due to the persistence of viral particles in the air after aerosolizing procedures, 6 full air exchanges on a closed-door room are recommended before unmasked individuals should be allowed back in.<sup>23</sup> Providers are encouraged to discuss airflow measurements of individual rooms with their institution's environmental services to determine best practices for room decontamination.

We are not aware of any formal guidelines regarding PPE for mirror examinations. However, owing to the risk of mirror examination–induced cough, it is our opinion that these examinations should follow similar protection practices to fiber-optic examinations. Appropriate PPE should be worn, and examinations should be deferred at the discretion of the treating physician.

### Discussion and Conclusion

The rapid rate of human-to-human transmission of SARS-CoV-2 is unprecedented, and consequently, health care systems globally are now facing the need to manage patients with mild to severe SARS-CoV-2 symptoms. To curb the pace of this outbreak, measures ranging from tight infection control procedures in the hospital to social distancing in the community are being implemented. However, the surge of SARS-CoV-2 cases has also inadvertently affected the delivery of other critical health care services, with varying implications across the different medical disciplines. For patients with cancer, a delay in diagnostic and staging workup and treatment will have a detrimental impact on survival. Herein, we focused on the impact of this pandemic on the management of patients with HNC who are undergoing or have completed radiation treatment. Guidelines on treatment aspects of surgery and radiation therapy have been covered by others.<sup>5-10</sup> Thus, we focused on the surveillance of patients while they are undergoing treatment and at the different time points after treatment. Different sets of considerations take precedence for the respective phases; toxicity symptom management and supportive care are more important issues during the early time points, and early and prompt detection of residual or

recurrent disease is crucial at the later time points. We synthesized the information borne from clinical evidence and existing recommendations from the National Comprehensive Cancer Network, taking into account the variations in practice among multiple academic tertiary cancer centers, and proposed some guidance on improvisations to practice. The fundamental rationale underpinning our proposed approach is simple: to reduce the number of hospital visits for patients with HNC, thereby mitigating the risk of patient-to-patient and patient-to-HCW virus transmission in this vulnerable group of patients, who are also at risk of more severe illness.<sup>1</sup> Although it is plausible that the acute phase of this pandemic could dissipate in the next 3 to 4 months, as of early April 2020, the path forward remains quite foggy. Fauci et al recently presented 4 pillars to end an epidemic that include diagnosing all individuals with the disease as early as possible post-infection, treating rapidly and effectively to achieve sustained viral suppression, preventing new at-risk individuals from acquiring the infection, and rapidly detecting and responding to emerging clusters of an infection to further reduce new transmissions.<sup>24</sup> Current data also suggest the possibility of recurrent new waves of human-to-human SARS-CoV-2 transmission within communities, and thus it is difficult to accurately predict the end of this pandemic. Hence, we believe that it is prudent to formulate a set of guidelines that are safe and sensible to integrate into our clinical practice longer-term in the face of a prolonged COVID-19 pandemic or future outbreaks of novel diseases.

As the global community struggles to contain this pandemic, continuous efforts are needed to understand the everchanging clinical course of this disease as the virus evolves with each subsequent outbreak cluster. Nonetheless, the oncology community ought to take this opportunity to rethink the necessity of some existing processes and review potential ways of leveraging technological innovation to streamline management of patients in the clinic. These new measures are likely to persist in the aftermath of this infectious disease crisis.

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