Palliative Head and Neck Cancer Treatment for Asymptomatic Disease

Divya Yerramilli, MD, MBE, Kevin J. Kovatch, MD, Annie W. Chan, MD, Paul Swiecicki, MD, Danielle N. Margalit, MD, MPH, and Andrew G. Shuman, MD

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

Keywords
head and neck cancer, palliative care, shared decision making

Received October 21, 2017; accepted February 7, 2018.

Case Description
J.W. is a 47-year-old woman who presented with symptoms of neck adenopathy, headache, and nasal congestion. She was diagnosed with locoregionally advanced nasopharyngeal carcinoma, and workup confirmed biopsy-proven liver metastases. Based on her distant metastatic disease, systemic chemotherapy was initiated. She had a partial response, and her initial symptoms of headache and congestion improved. Concern for local tumor progression with eventual cranial nerve involvement and skull base invasion prompted discussion of radiation therapy to the primary site. Here, an asymptomatic patient with incurable disease is faced with a difficult decision on whether to pursue local cancer-directed therapy at this time.

Point
The patient should receive radiation therapy to improve local control of disease that is anticipated to become symptomatic.

In the case of patients with incurable cancer, goals of treatment aim to prolong life or to mitigate symptoms and improve quality of life. The ways in which these treatments can be delivered range in intensity and aggressiveness and often can achieve both endpoints. For example, aggressive surgical management of brain metastases followed by radiation therapy can prolong life and delay the onset of neurologic symptoms, thereby improving quality of life, and this is considered a palliative intervention. On the other end of the spectrum, early palliative care intervention without tumor-directed therapy was similarly shown to improve quality of life and prolong overall survival. Regardless of overall prognosis, there are no standards that define which interventions are too aggressive and which are not aggressive enough when it comes to palliative care.

In many cases, tumors continue to grow in patients with advanced cancer who do not receive cancer-directed therapy. If the trajectory of symptoms due to a growing tumor can be reasonably predicted and other sites of disease are controlled, it may be worthwhile to offer cancer-directed therapy before the patient experiences symptoms. This is based on 2 main assumptions: (1) The patient will eventually become symptomatic in a way that is distressing due to morbid symptoms, and (2) providing a patient with palliation prior to symptom onset would ultimately result in less suffering than waiting to palliate when symptoms are established and potentially more difficult to alleviate.

Radiation oncologists routinely offer palliative treatments prior to true symptom onset, whether it is palliative radiation for small brain metastases or even prophylactic whole brain radiation to patients with small cell lung cancer, to areas that threaten to evolve into true symptomatic cord compression, and for impending pathologic fractures that fulfill radiologic criteria in weight-bearing areas but are not necessarily fractured or causing pain. These recommendations are tempered by a holistic sense of the individual’s performance status, competing risks, prognosis, and the anticipated side effects of treatment. In the case of patients with head and neck cancer, the anticipated side effects of

1Department of Radiation Oncology Surgery, Massachusetts General Hospital, Boston, Massachusetts, USA
2Department of Radiation Oncology, Brigham and Women’s/Dana-Farber Cancer Institute, Boston, Massachusetts, USA
3Department of Otolaryngology—Head and Neck Surgery, University of Michigan Health Center, Ann Arbor, Michigan, USA
4Department of Medical Oncology, University of Michigan Health Center, Ann Arbor, Michigan, USA
These authors contributed equally to this article.

Corresponding Author:
Andrew G. Shuman, MD, Department of Otolaryngology—Head and Neck Surgery, University of Michigan Health System, 1904 Taubman Center, 1500 E Medical Center Drive, Ann Arbor, MI 48109, USA.
Email: shumana@med.umich.edu
treatment are a key component of the discussion of risks and benefits.\textsuperscript{6} More so than other disease sites, the progression of advanced cancers of the head and neck can have a significant impact on physical and psychosocial symptoms.\textsuperscript{7} With advanced imaging techniques and the ability to detect regions of local tumor extension, these side effects may be predictable. Tumor extension into the skull base may cause cranial neuropathies resulting in visual disturbances, hearing loss, and facial pain. Tumors may ulcerate through skin and facial structures causing disfigurement, which can lead to social isolation and distress. Tumor extension into pharynx and cranial nerve involvement may lead to feeding difficulties and nutritional deficiencies and may eventually necessitate a feeding tube. Hypopharyngeal or laryngeal invasion may prevent a patient from communicating effectively. These effects can be reasonably anatomically predicted, which suggests that whether palliative cancer-directed interventions are employed preventatively or when the patient becomes symptomatic is simply a matter of time.

In the case of J.W., the location and extension of her primary tumor into the skull base are concerning for the development of cranial neuropathies and compromised function, which may ultimately necessitate more aggressive treatments to maximize comfort or pain medications that can lead to somnolence and constipation. Early palliative radiation may obviate the need for feeding tubes and mitigate the potential side effects associated with radiation therapy. If the patient receives palliative radiotherapy when the gross disease is limited to the skull base, she could expect minimal mucosal and parotid irradiation, which would result in less mucositis and xerostomia\textsuperscript{8} and would likely be well tolerated. However, should the primary tumor progress, then these symptoms would likely be worse due to the need to irradiate a larger area. If the goal for palliative treatment is to maximize comfort and minimize the extent of interventions, it is logical to offer radiation treatment prior to symptom onset.

The role of clinicians in empowering J.W. to make informed decisions includes a detailed discussion of treatment intent (palliative vs curative), the risks and benefits of any treatment, as well as the alternative of forgoing further disease-directed treatment. In addition to fully informing patients of expected side effects and duration of treatment, clinicians would be remiss to ignore the fact that many standard palliative measures (including pain control) are often insufficient to adequately manage the symptoms of head and neck cancers, such as vision loss, inability to communicate, and physical disfigurement, which can be distressing at the end of life for patients and their family members.\textsuperscript{9}

The ethical principles that drive the rationale for offering treatment are to maximize beneficence to the patient and empower patient autonomy through shared decision making.\textsuperscript{10} If in line with the patient’s overall goals of care, a course of palliative radiation therapy would be reasonable prior to symptom onset, to prevent symptoms related to tumor progression and to mitigate side effects of future palliative treatment. All of these nuances should be discussed with the patients in the context of the unique clinical situation, and the proposed therapies must be aligned with patient and family goals.

Counterpoint

Because the trajectory of the patient’s clinical course cannot be accurately predicted, the patient should receive palliative radiation when she is symptomatic.

Authors: Kevin J. Kovatch, MD, Paul Swiecicki, MD, and Andrew G. Shuman, MD

In managing progressive incurable cancer, it is critical to define the intent of care and patient-centered goals in the context of one’s prognosis. As discussed, palliative care can encompass a variety of interventions, but the trade-offs of toxicity and time must be balanced with potential benefits of the intended outcome. One of the most important factors in balancing these considerations is expected prognosis.

The clinical trajectory of incurable head and neck cancer is variable, and life expectancy cannot be reliably predicted.\textsuperscript{11} In this case, while her nasopharyngeal tumor may progress over an unknown period, she may ultimately succumb to regional or distant metastatic disease. Local radiation therapy delivered prior to symptom onset over the last months of her life could subject her to a course of treatment that would not be beneficial, at the expense of treatment-related side effects as well as unnecessary time spent under treatment. If she were to progress locally with associated symptoms, there would be more robust justification to initiating cancer-directed therapy. This uncertainty in the natural history of cancers at the end of life further underscores for frequent evaluation and multidisciplinary input through tumor board, conferences, and consultations.\textsuperscript{12,13} This also allows for a range of palliative interventions that can be readily initiated when the patient becomes symptomatic.

Cancer-directed palliative interventions may or may not improve the natural history of the disease, but they almost certainly will subject the patient to adverse effects in the immediate future. Indeed, all local treatment modalities for patients with head and neck cancer can be associated with troublesome symptoms, regardless of curative versus palliative intent. Therefore, there must be a candid discussion to facilitate informed decision making, specifying the treatment dose and interval needed to provide meaningful palliation, as well as the anticipated side effects and efficacy. There is a litany of palliative radiation therapy regimens and fractionation schemas designed to shorten the length of treatment and the resulting consequences. Like palliative radiation, palliative surgical intervention to a site of disease has its own risks and may be more justified in cases with a clear indication and clinical endpoint, such as control of hemorrhage or establishing an airway. Pain control, one of the most significant goals of palliative care, can often be achieved without cancer-directed therapy, thus avoiding the significant risks and morbidity associated with surgical intervention or radiation therapy to the head and neck.
Shared decision making with identification of specific patient and family goals is a vital part of cancer care, especially in incurable settings.14 Offering no active cancer-directed treatment must always be considered a valid option in the context of one’s treatment options, reiterating that palliation itself is a worthy endpoint.15 For patients with estimated life expectancies measurable in months, the burden of time spent in treatment should not be minimized; it is not a trivial toxicity. With the onset of symptoms, the balance between relative risks and benefits of treatment may be skewed in favor of treatment. However, in the absence of current symptoms, we may subject a patient to assume risks without a predictable or necessarily proportionate benefit. The therapeutic imperative to treat a tumor simply because it is present must be mitigated.

Patients who receive palliative cancer-directed therapy commonly believe that their treatment is curative.16 Such beliefs may conflate a patient’s expectations regarding prognosis and may be psychologically damaging. Appropriately, National Comprehensive Cancer Network guidelines recommend consideration of clinical trials (vs best supportive care) for patients with metastatic disease and good functional performance status.17 Still, clinical trial enrollment requires particular attention to informed consent, including a discussion to avoid the therapeutic misconception that may occur when the patient does not appreciate the difference between research and treatment. Henderson et al posited that in these circumstances there must be a clear understanding that the defining characteristic of research is to create generalizable knowledge rather than to administer personalized treatment.18

Indeed, the role of palliative care is commonly misconceived by physicians and patients alike and is often considered only in the setting of end of life or hospice care. Likewise, the need for psychosocial counseling and social support is also underestimated by physicians despite its critical role for patients with advanced cancers.19 The benefits of palliative care are supported by a large body of evidence and include better symptom control, lower rates of emergency room visits and hospital admissions, more efficient health care spending, improved quality of life, higher satisfaction with care, lower rates of depression, and less invasive interventions at the end of life.2 In this case, palliative care must be considered separately from end-of-life care; thus, initiation of palliative care services should not depend on the patient’s prognosis or pursuit of life-prolonging treatments at any stage in her care.

Several considerations must underpin decisions in a palliative framework: (1) How much is she suffering at present? (2) What is a reasonable estimation of her prognosis? (3) What are the side effects of palliative interventions? (4) What are her immediate and longer-term goals? Based on these questions, it may not be justifiable to deliver aggressive therapies that may cause disproportionate toxicity. In the latter case, extended survival without meaningful quality of life constitutes low-value palliative care.20 As is often the case in end-of-life care, patients and physicians are tasked to make decisions with limited knowledge of future events and clinical trajectories.

Author Contributions
Divya Yerramilli, conception and design, drafting and revising the article, accountable for all aspects of the work; Kevin J. Kovatch, conception and design, drafting and revising the article, accountable for all aspects of the work; Annie W. Chan, conception and design, drafting and revising the article, accountable for all aspects of the work; Paul Swiecicki, conception and design, drafting and revising the article, accountable for all aspects of the work; Danielle N. Margalit, conception and design, drafting and revising the article, accountable for all aspects of the work; Andrew G. Shuman, conception and design, drafting and revising the article, accountable for all aspects of the work.

Disclosures
Competing interests: None.

Funding source: Kevin J. Kovatch, supported by National Institutes of Health (grant T32 DC005356).

References


