The Role of Palliative Care in Oncology

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Abstract

Keywords

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- interventional radiology

Palliative care is a powerful adjunct to oncology that adds distinct value to the physical, mental, and psychosocial well-being of patients living with cancer. Its expanding role and integration with standard oncologic care has proven clinical benefit, as the practice of palliative care can help alleviate symptom burden, enhance illness and prognostic understanding, and improve both the quality of life and overall survival for patients. The primary aim of this review article is to highlight the significant interplay between palliative care and oncology and, in doing so, shed light on the areas for improvement and modern challenges that exist to meet the complex palliative care needs of patients with cancer.

Objectives: Upon completion of this article, the reader will be able to discuss the role of interventional radiology in the palliative treatment of terminally ill patients, including the societal need for such care, current obstacles to such care, and the need for close integration of care with referring care provider.

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Palliative care is an integral component of the comprehensive care for patients in oncology. Its clinical practice is rooted in the philosophy of improving the quality of life for patients who are living with serious illnesses and for their families. In

doing so, this interdisciplinary specialty aims to alleviate symptom burden, treat spiritual and psychological distress, enhance illness and prognostic understanding to establish goals of care, and help patients cope with their condition and the dying process as they transition to the end of life.^{1,2} Though palliative care physicians traditionally provide hospice and end-of-life care for patients during the last months of life, the expanding role and core concepts of palliative medicine are vital from the time of diagnosis—even when cure is possible—and should be integrated throughout the trajectory of a serious medical condition, such as cancer.

This review article is not intended to be a comprehensive assessment of the role of palliative care for cancer patients, but rather aims to highlight the importance and related challenges of integrating palliative care in our modern era of oncology. Herein, we plan to address the following salient topics: (1) a brief overview of measuring symptom burden; (2) the often unrealistic expectations and inaccurate understanding of illness of patients with advanced disease; (3) the evidence which support models of integration and high-quality primary palliative care; (4) the barriers to meeting a growing demand for palliative care; (5) palliative care in the dynamic landscape of cancer therapeutics; and (6) the

expanded role of interventional radiology (IR) as a specialty in procedural palliative care. The primary objective of this review is to improve physician awareness of the unmet palliative care needs for patients with cancer and, ultimately, elucidate the synergistic effect that palliative medicine can have along with cancer-directed treatment on the physical and mental well-being of patients.

Symptom Burden and Patient-Reported Outcomes

According to the National Consensus Project for Quality Palliative Care, the domains of palliative care and recommendations for optimal delivery include the evaluation, support, and treatment of the physical, psychological, social, spiritual, and cultural aspects of care, while also assisting patients in the coordination of care and shared decision-making process throughout their disease trajectories.^{3,4} Guidelines for incorporating these principles of palliative care into oncology practice help inform oncologists how to longitudinally assess patients' values and treatment goals, and concurrently intervene to manage their cancer-related symptoms.

Some of the common physical manifestations of cancer include pain, anorexia, cachexia, fatigue, nausea, constipation, dyspnea, and malignant bowel obstructions. These physical symptoms as well as the related spiritual and psychosocial distress during a patient's treatment course are routinely addressed by both medical oncologists and palliative care specialists in clinic visits. Recent clinical studies that evaluate symptom monitoring with web-based patient-reported outcomes have shown an added clinical benefit, empowering patients to take ownership of their disease and allowing for earlier detection of symptom recurrence.

Basch et al demonstrated that patients initiating chemotherapy who are randomized with an ability to notify their health care teams with interval symptoms have a higher quality of life and improved overall survival compared with patients who receive usual care.⁵ Differences in survival may be attributed to early detection and, consequently, prompt management of disease and treatment-related toxicities. A similar study in patients with high-risk lung cancers showed that an electronic-based follow-up evaluation for symptom burden can improve clinical outcomes, with identifying the need for earlier supportive care and thereby improving quality of life and survival.⁶ These studies collectively indicate how oncologists and palliative care specialists can monitor the symptoms of patients with cancer, both in clinic and by patient-driven reports.

Expectations and Illness Understanding

Along with helping to relieve symptoms, palliative care in oncology is deeply involved in supporting patients as they cope with and comprehend their disease, and the goals of treatment. Chemotherapy is offered in the metastatic setting with the goal of improving symptoms and stabilizing disease. Poor understanding of the goals of treatment for incurable

metastatic disease can compromise the ability of patients to make informed treatment decisions, and ultimately may delay end-of-life care and planning. Prior studies have shown that patients' decisions to receive treatment for advanced stage illnesses are dependent on their knowledge of the likelihood of adverse outcomes and overall burden of the treatment itself—including length of hospital stays, frequency and degree of invasive interventions, and extent of monitoring.⁷ Yet, a pivotal secondary analysis of data from the Cancer Care Outcomes Research and Surveillance (CanCORS) study showed that 69% of patients with stage IV lung cancer and 81% of patients with stage IV colorectal cancer who elected to receive systemic treatment had inaccurate expectations for the curative potential of chemotherapy.⁸⁻¹⁰ Supplementary findings have shown that patients with advanced cancers who did not expect chemotherapy to cure their disease still received treatment at similar rates to those patients who had higher expectations, but were more likely to enroll in hospice services before death.¹¹

Patient clinical encounters, and both the content and manner in which prognostic information is disclosed, have significant impact on how patients make treatment-related decisions. Discordance between patients and oncologists with regard to prognosis and expectations for treatment remain common.¹² Epstein et al have shown that more accurate illness understanding is associated with patient reports that discussions have occurred on prognosis and life expectancy with their oncologists.¹³ In this study, illness understanding scores were generated for patients with advanced cancers refractory to standard chemotherapy who were expected to die within 6 months, based on four variables: patient acknowledgment of terminal illness, recognition of incurability, knowledge of advanced stage of disease, and accurate expectations to live months as opposed to years. In comparison to patients who never participated in or only had remote conversations about prognosis with their oncologists, patients involved in more recent conversations had higher illness understanding scores and better insight into the terminal nature of their metastatic cancers. In addition, communicating information with varying degrees of optimism correlates with patients' perceptions of physician compassion, as content presented in a more optimistic manner is often associated with higher levels of perceived physician compassion and trust.¹⁴ Communication skills training on discussing life expectancy may be of benefit for oncologists to facilitate accurate patient comprehension of the goals of treatment for incurable disease, all the while maintaining a therapeutic relationship and a message of hope.¹⁵

Along with a dedicated focus by oncologists to clarify any illness misconceptions patients may have, specialty palliative care can serve as an adjunct to help patients mentally prepare for the role and appropriate utilization of systemic cancer treatment. In patients with advanced non-small cell lung cancer, those randomized to receive early concurrent palliative care with oncologic care compared with those who received standard oncologic care alone developed a more accurate understanding of their prognosis over time, and were less likely to receive systemic chemotherapy at the end

of life.¹⁶ Of note, baseline perceptions on the curability of terminal cancers and goals of therapy prior to randomization did not differ between study groups, and confirmed that the majority of patients with metastatic disease continue to expect curative outcomes. Oncologists and palliative care physicians therefore must continue to work in tandem, with dual clarity and compassion, toward sustained illness understanding to help patients make informed decisions, accept the realistic goals of treatment, and plan for end-of-life care.

Models of Integration of Palliative Care

Traditional palliative care integration by in-hospital consultations and end-of-life conversations has been shown to improve the quality of death for patients with advanced cancer and, in doing so, reduce health care costs and utilization.^{17,18} It is undeniable that systemic chemotherapy without clear benefit for patients at the end of life results in adverse toxicities, delays hospice referrals, and does not improve survival.^{19–21} Of equal importance, it adds to illness misunderstanding and prevents patients from mentally and emotionally preparing for the dying process. Given the proven value of palliative care in oncology for symptom management, quality of life, and prognostic understanding of terminal illnesses, there has been growing evidence in the last decade to support the early integration of palliative care for cancer patients.

Recent clinical trials examining the effects of early integration of specialty palliative care show marked improvement in patient satisfaction, mood, quality of life, health care utilization, and overall survival. For example, patients who received early in-home palliative care services in addition to usual care had fewer emergency department visits, hospital admissions, and lower medical costs.²² The ENABLE II randomized controlled trial showed that patients with terminal cancer who received early supplementary palliative care administered by advanced practice nurses had better quality of life and mood.²³ Research by Zimmerman et al on the early involvement of ambulatory palliative care for patients with metastatic cancer further demonstrated superior outcomes in patient satisfaction.²⁴ In a landmark randomized controlled trial by Temel et al, patients with metastatic non-small cell lung cancer were assigned to receive either standard oncologic care alone or standard oncologic care with early concurrent palliative care near the time of diagnosis.²⁵ This study not only validated prior research that the addition of palliative care improved quality of life and reduced depression, but notably it reported a statistically significant difference in overall survival between study groups. The median survival of patients randomized to early palliative care was 11.6 months, whereas the median survival of patients receiving standard oncologic care alone was 8.9 months ($p = 0.02$). Patients assigned to early palliative care also received less aggressive cancer-directed care, including chemotherapy, at the end of life.²⁵ Subsequent studies interestingly show that the effectiveness of early palliative care may vary per cancer type, especially given the differences in baseline disease trajectories and available therapeutic options.²⁶

The integration of specialty palliative care therefore has meaningful benefit for patients with advanced cancers and is strongly advocated by the American Society of Clinical Oncology.²⁷ However, the practicality of requiring palliative care specialists to address all aspects of palliative medicine is not feasible in our modern era of cancer care, where needs are complex and many. For this reason, primary oncologists should share in the responsibility to provide basic psychosocial support, manage cancer-related symptoms, and help patients with advance care planning and discuss end-of-life preferences. We must establish a model that maximizes the utilization efficiency of health care resources and defines the necessary skill sets to optimally deliver primary and specialty palliative care.^{28–30} Education in core palliative care principles for all levels of learners and providers in oncology will enhance high-quality patient care, and allow for better triage of the complex and refractory palliative care needs to palliative care specialists. Oncologists who seek dual training in palliative care can serve as ambassadors who know how to effectively bridge and understand the nuances of both disciplines.³¹

Meeting the Demand

One of the pitfalls for relying on specialty palliative care in oncology is that the current workforce of palliative care specialists is insufficient to meet the growing demands of an aging cancer population. The Institute of America's influential 2014 publication on *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life* outlines the need and ensuing challenges for focused improvement in physician training in palliative care in our current health care system.³² Prior surveys conducted by Hui et al in 2010 have demonstrated that most NCI-designated and non-NCI cancer centers have palliative care services, but vary in the extent of their utilization and success of their integration.³³ To provide cancer patients with high-quality palliative care, more recent studies seek to characterize the current state and scope of palliative care services offered at national cancer centers. A 2015 NCCN survey indicated that all responding institutions have inpatient consultation services and majority have outpatient clinics to address symptom management and end-of-life care; however, only 23% have home-based palliative care services and that 80% of these institutions still report inadequate capacity to meet demand.³⁴ While this survey illustrates the increasing prevalence of outpatient palliative care among cancer centers, there remain opportunities for much needed improvement. The supply-demand gap in palliative care is largely due to a lack of trained specialists, and further investment in training all members of a patient's oncology team with primary palliative care skills has the potential to lessen this imbalance.³⁵ Moreover, while inpatient consultation services have been uniformly available for patients compared with outpatient or home palliative care, few hospitals have appropriate and sufficient staff to comply with national recommendations.³⁶ Additional funding and education to

develop a sustainable model that seamlessly dovetails palliative services with oncologic care will undoubtedly have meaningful clinical and psychological impact for patients and their families.

The Evolving Era of Cancer Therapeutics

Over the past decade, the rapid and ongoing evolution of cancer therapeutics has changed the landscape of oncology. The advent of immunotherapy to block the inhibitory interactions between cancer cells and host immunity, as well as the development of precision oncology to target individual driver mutations, offers new treatment options that have the potential to extend overall and disease-free survival. However, as investigational therapeutics expand and clinical trial participation increases, oncologists and their patients must contend with the uncertainty of prognostic understanding.^{37,38} This creates an unparalleled challenge for patients to engage in informed conversations with their oncology and palliative care teams, especially with regard to preparing for their future and discussing end-of-life care options. Oncologists and palliative care specialists must directly address these uncertainties with each clinical encounter, with the goal of tempering unrealistic expectations and helping patients navigate their disease trajectories in real time.

Furthermore, patients with advanced disease that progress on standard-of-care treatment options and who elect to participate in phase I investigational trials represent a growing patient population with unmet palliative care needs.^{39–41} Studies which predate the emergence of immunotherapy and molecularly targeted therapy using tumor genomics demonstrate that patients who participate in phase I clinical trials often expect success and underestimate the potential toxicity of experimental therapy compared with standard therapy.⁴² These patients also have increased symptom burden and are less likely to seek home services.⁴³ Additional research is needed to evaluate the role of palliative care in patients receiving experimental therapeutics. While enrollment in phase I trials and receipt of palliative care are not mutually exclusive, the promise of translational medicine requires a more concerted effort by physicians to help patients balance hope with accurate illness understanding.^{44–46}

Interventional Radiology and Palliative Care

The discipline of IR has a significant role in the longitudinal care of patients with cancer, from obtaining tissue diagnosis with image-guided biopsies to providing therapeutic interventions and palliation of cancer-related symptoms. The evolution of procedural techniques has enabled interventional radiologists to expand their role in the treatment of cancer, and provide novel ways to alleviate symptom burden, such as refractory pain, beyond conventional therapy.^{47–49} Patients with cancer therefore derive significant benefit from the contribution of IR to the multimodality treatment plan outlined by their primary oncologist.

In particular, the minimally invasive palliative procedures conducted by IR greatly improve the quality of life and relieve suffering for cancer patients. Percutaneous ablative and nerve-block procedures for pain control, vertebroplasty for compression fractures due to osseous lesions, and image-guided interventions to decompress malignant obstructions and drain persistent effusions or ascites are a few examples that demonstrate the powerful impact of IR on the management of cancer-related symptoms.⁵⁰ Given the overwhelming benefit of such interventions, it is important to integrate IR into the multidisciplinary approach to optimizing supportive care in the cancer patient population.^{51–53} Rational decision making for timely palliative interventional procedures during the course of a patient's disease necessitates an open dialogue among all members of a patient's health care team. Moreover, validated disease-specific quality-of-life assessments in the periprocedural setting are helpful tools to select appropriate interventions, and can be used to measure the efficacy of IR procedures on improving patient-reported outcomes and controlling symptoms.⁵⁴

Similar to the paradigm shift of incorporating primary palliative care within medical oncology, there is a greater recognition for the role of primary clinical palliative care for interventional radiologists. Given the dynamic interplay of palliative care and IR, the American Board of Radiology supports adjunctive training and certification in Hospice and Palliative Medicine. Regardless of whether trainees decide to pursue additional training in palliative care formally or informally, interventional radiologists are uniquely positioned to help patients cope with serious illnesses with the use of image-guided interventions.^{55–57} The responsibility to assist in symptom management and recognize how such interventions can enhance the quality of life in patients with advanced malignancies thereby underscores the value of interventional radiologists as procedural palliative care specialists.

Conclusion

Palliative care is essential for the physical, mental, and psychosocial health of patients with advanced cancer. Its synergistic effect on overall survival, while improving outcomes in patient satisfaction and quality of life, merits its inclusion with standard oncologic care. Ongoing dedicated research is needed to evaluate the integration and expansion of high-quality palliative care services to meet the demands of a growing cancer population. Medical oncology and other specialties, including interventional radiology, must incorporate primary palliative care skills into their practice, and work together with specialty palliative care physicians to help patients better understand and cope with their illnesses—a task that includes, but is not limited to, when such illnesses are terminal.

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