Editorial Commentary

Palliative care education for oncologists: how are we doing?

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Introduction

With the aging U.S. population, the cancer burden is increasing exponentially (1,2). Most cancer deaths occur after a period of prolonged chronic disease accompanied by progressive symptomatic burden, and psychological and spiritual distress (3). Efforts to improve cancer care, reduce cancer-related suffering, and help patients understand their prognosis and treatment options are urgently needed and are an essential part of engaging patients in their own care (4). Palliative care (PC) is patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering throughout the continuum of illness and involves addressing physical, intellectual, emotional, social, and spiritual needs (5,6). PC is consistent with quality value based care recommendations (4-7). Timely PC intervention can sustain quality of life, reduced healthcare costs, and possibly lengthened overall survival (8-10). As the demand for PC services grow, leading to a shortage of specialty-trained/certified PC providers (specialty PC), other members of the interdisciplinary team will need to step-up to help manage PC needs. As such oncologists [medical oncologists (MO), radiation oncologists (RO), surgical oncologists (SO)] need to take a more active role as primary PC providers (generalist PC) to address basic PC issues and to provide better care for their patients (11-13). Therefore it is imperative that these oncology specialists are adequately trained and educated in PC principles and delivery.

General PC education overview

Although oncology specialists have unique tools (chemotherapy, radiation, or surgery) to contributing to the overall palliative management plan of an individual patient, they frequently lack training and competency in basic PC skill or practices (13). To this end PC education should be part of every residency program and exposure to PC principles through hands-on-experience and organized rotations will create oncologists who understand PC and its benefits (14,15). Physicians, who are comfortable with PC issues, are more willing to deliver PC and to refer to PC specialists appropriately (16).

To aid in the development of quality PC practices, several evidence-based guidelines have been published to help physicians develop PC skills (4-6,17). The National Consensus Project's Clinical Practice Guidelines for Quality Palliative Care (NCP Guidelines) provide a framework regarding the degree of PC skill all oncologists, as primary PC providers, should possess. Key competencies include: an understanding of the value of PC; a sound knowledge of PC principles and practices; the ability to assess prognosis, symptom burden, functional status, quality of life, and patients' social support systems; proper techniques for managing symptoms associated with pain, nausea, dyspnea, fatigue, and agitation; recognition of psychological and/or psychiatric concerns, an appreciation for the role of spirituality and culture in patients' treatment decisions; comprehension of hospice eligibility; and communication skills to appropriately address prognosis, goals of care, and make timely hospice referrals (5). Likewise the National Comprehensive Cancer Network (NCCN) guidelines for PC highlight key areas of PC management and provide evidence-based approaches to many palliative situations (6). Additionally the goals of "Delivering High-

Quality Cancer Care" demand that oncologists better engage patients by providing them with sound information about their prognosis, treatment options, costs, psychosocial support, and PC in order to foster coordinated team-based approaches to treatment that are consistent with the patient's core values and goals. This cannot be achieved without all providers being familiar with and possessing skills in PC. Together these guidelines and recommendation can serve as a driving force for PC education and become a foundation for building standardized curriculum for oncologists-in-training.

Currently the Accreditation Council for Graduate Medical Education (ACGME) provides little guidance regarding the degree of PC education or skills necessary for board certification in MO, SO, or RO, or how to test for competency. The ACGME gives the most guidance to MO by specifying that hospice and PC expertise should be available to the fellows, who in turn are expected to demonstrate competence in PC, hospice, and home care (18). For SO, the ACGME mandates that fellows can identify patients for surgical palliation, be able to perform the procedure, and have knowledge of non-surgical palliative treatments (19). Any mention of awareness, education, or competency in PC, end-of-life, hospice, or symptoms management is lacking from the current ACGME guidelines for RO (20). This dearth of guidance results in varying quality of the education depending on training program and the experience and interest of individual trainees. Currently being a board certified oncologist is not a surrogate for competency in the basics of PC. Strategies for appropriately teaching and evaluating clinical competency commensurate with the needs of each specialty are needed. Despite the lack of a formal mandate, there is universal recognition by all oncologists of the value of PC skills and education among oncology specialist with the majority desiring better PC training (21-26). Here we evaluate the state of PC education in each specialty, in order to identify specialty-specific deficits, highlight areas of strength, and garner support for improving PC educational opportunities for all oncology specialists.

Medical oncology

The development of antifolates and nitrogen mustard in the 1940s marked the beginning of cancer chemotherapy and subsequently gave birth to the specialty of medical oncology (27-29). This era began with Goodman *et al.* and Farber *et al.* documenting the clinical course of acute leukemia and lymphomas treated with antifolates and nitrogen mustard (27,29). In both series, the therapeutic responses were short-lived, but symptoms were immediately alieved, thus establishing the palliative role of chemotherapy. In the majority of patients with advanced solid malignancies, systemic therapy is given with a palliative intent to improve tumor-related symptoms and prolong life at the cost of potential significant toxicity. Hence, it is vital for MOs to receive adequate PC training to meet the growing needs of the oncologic population both in terms of symptoms related to tumor burden and therapy.

In the U.S., there are approximately 13,000 practicing MOs, with another 500 graduates joining the workforce annually (30). Over 80 percent practice in a community setting, often without a dedicated PC team, which highlights the significant need for basic PC skills for all MOs. Without detailed and specific guidelines the definition of adequate PC training in hematology/oncology fellowship remains unclear. The American Society of Clinical Oncology (ASCO) has recommended integration of PC services into standard oncological care (31). Despite these requirements, there is limited guidance as to how to provide such training, what needs to be taught, and how to evaluate competence in PC.

Review of the current approach to PC training in fellowship reveals several gaps including lack of: a structured PC syllabus; dedicated PC teams in all training programs; adequate research to address the issues of palliative cancer care; evidence-based practice guidelines for multiple domains in PC; and adequate PC education for medical undergraduates (future fellows). Additionally, PC rotations are often electives and not required during training leading to a perceived lack of formal PC didactics among fellows (21) (*Table 1*).

In 2013 a national cross-sectional survey about PC training showed 100% of the trainees understood the importance of PC education (21). However, about 25% reported adequate training in their ability to: assess prognosis; timely refer a patient to PC and hospice services; conduct a family meeting. Fellows who had a rotation in PC received better teaching and were prepared for dealing with PC issues. In this survey, 44.9% of fellows had completed a PC rotation compared to 26% in 2004 (21,32). These studies suggest trainees felt their overall training in medical oncology was superior to training in PC care. Several knowledge gaps in cancer pain management, have also been identified (33,34). In a recent survey, over 60 percent of oncologists chose pain management options

Table 1 Gaps in palliative care education in oncology specialists training

a. Variability in palliative care training amongst fellowship/residency programs
b. Inadequate education in cancer pain and symptom management
c. Palliative care rotations are often electives and not a prerequisite
d. Lack of a structured palliative care curriculum or mandates from specialty governing boards regarding palliative care education and exposure during training
e. Lack of robust evaluation tools to assess competency
f. Perceived lack of formal palliative care didactics among trainees
g. Lack of dedicated palliative care teams in all training programs
h. Need for increased palliative care education for medical undergraduates (future trainees)
i. Lack of adequate research to address the multiple issues of palliative cancer care or to evaluate the utilization and efficacy of palliative care practices
j. Lack of evidence-based practice guidelines for multiple domains in palliative care
k. Reluctance to adopt palliative techniques supported by published randomized trials examining the effectiveness of palliative therapies into clinical practice

considered unacceptable by pain specialists (33). Physicians who indicated more deficiencies, often attributed this to inadequate pain-related training in medical school and residency/fellowship. Finally, lack of appropriate PC training amongst both trainees and practicing MOs has also been associated with high emotional exhaustion, depersonalization, and lower levels of personal accomplishment (35,36). These studies highlight the need to identify and address barriers for enhanced PC experience during training.

Despite the perceived educational gaps during fellowship, there is growing recognition of the added value of PC training in oncology. Efforts to introduce educational initiatives to improve training, including mandatory structured PC rotations, develop better curriculum and tools to assess competency, add a different but needed facet to the core skills of a MO. ASCO Educational Essentials for Oncology fellows include modules for PC that could serve as blueprints for a more formal curriculum in PC care training (*Table 2*).

Just as early drugs revolutionized the treatment and palliation of cancer, the development of new chemotherapeutic regimens coupled with advances in molecular biology and genomic (personalized) medicine will dramatically increase the therapeutic options and improve outcomes. As the number of cancer survivors increase over time, so will the PC needs of this population. Hence, there is an urgent and unmet need for MOs adequately trained in PC.

Radiation oncology

Radiation therapy emerged as a palliative tool shortly after the discovery of the X-ray in 1896, when a student doctor, Émil Grubbé, used X-rays to mitigate the symptoms associated with an ulcerative recurrent breast cancer (37). This early application laid the foundation for the modern use of RT for relieving pain and suffering. Since 20–50% of all radiation treatments are given with palliative intent (38-41), ROs are in a unique position to address PC needs as they often care for patients with significant cancer and symptom burdens. Adequate training in PC skills and philosophy allows ROs to better utilize the time during weekly treatment and follow-ups visits to address PC issues as they develop like managing symptoms, mitigating distress, and effectively communicating to help define the goals of care in patients treated with both palliative and curative intent.

While RO residents frequently deliver palliative RT, lack of formal PC curriculum or mandatory PC rotations limits the development of the necessary skills to effectively deliver PC or be engaged in the multidisciplinary PC team. In fact most RO residents are "not at all/minimally/somewhat confident" in their ability to manage symptom management (36% pain, 44% non-pain), communication about goals of care (31%), discuss advance care planning (48%), psychosocial (55%), cultural (22%), spiritual (44%), care coordination (50%), and ethical/legal issues (50%) (23). To this end, 79% rated their training as "not/minimally/

Table 2 Future approaches to improve palliative care education in oncology specialist training

a. Develop standard general and specialty-specific guidelines/curriculum and competencies for palliative care education for all programs
b. Mandate palliative care rotations for all trainees
c. Integrate Palliative care specialist in regular educational didactics sessions and rounds-style forums for trainees
d. Encourage specialty governing and licensing boards to require palliative care education and exposure during specialty training
e. Develop robust tools to better assess competency in palliative care and communication skills
f. Develop integrated multidisciplinary teams of oncology and palliative care specialists to facilitate innovation and enhance perspective views of palliative care problems
g. Lobby for governmental funding and carry out clinical trials to test and improve the efficacy and utilization of palliative cancer care practices
h. Identify and develop specialty-specific tools and skills to better address palliative care issues unique to each discipline
i. Continue to identify gaps in palliative care education and find innovative solutions
j. Develop in-person and on-line modules and curriculum to facilitate uniform learning and exposure to various aspects of palliative care skills training
k. Develop single or multi-day educational courses or sessions at specialty national meetings to teach palliative care principles from palliative care specialists
l. Encourage leaders in the oncology subspecialties to seek further training in palliative care via palliative medicine fellowships, immersion programs, or specific CME to help facility future peer-to-peer teaching
m. Interdisciplinary/interprofessional teamwork between oncology subspecialists and palliative care professionals

CME, Continuing Medical Education.

somewhat" adequate in PC domains, despite almost all believing PC was an important competency within RO and 81% desiring more education (40).

Only one study has evaluated the quality and quantity of PC education in RO programs; it found that only 67% had formal educational activities in PC compared to 85% having formal curriculum in palliative RT (26). Furthermore the majority (~67%) had formal didactics in the management of pain, neuropathic pain, nausea, and vomiting, but only about one-third had dedicated didactics in managing fatigue, assessing spirituality, and discussing advance directives (26). This corresponds closely to a report showing practicing ROs feeling confident managing pain and gastrointestinal symptoms, but lacked confidence managing anorexia, depression, anxiety, and depression (24). These shortfalls in palliative education hinders residents' development of the communicative skills necessary to discuss goals of care, accurately assess distress, or address spiritual or psychosocial elements of care.

Inadequate training in PC principles and philosophy among ROs is also reflected in the relatively poor application of evidence based palliative RT regimens in practice. Despite multiple randomized studies showing equipoise between long and short course radiation for painful bone metastases, there has been slow adoption of shorter regimens (42-44). Shorter courses provide greater palliative benefits due to reduced time, energy, cost, and resources, while providing the same symptomatic relief. Efforts to educate residents in the PC philosophy and practice, including properly assessing and communicating prognosis, and identify patients' desires and goals of treatment could significantly improve use of short course RT and improve its palliative benefits (45).

While there is little evidence in the medical literature regarding how to teach ROs PC principles, some evidence suggests that hands-on experience and routine scheduled didactic or multidisciplinary rounds-style sessions provide good opportunities to foster PC skills development (46,47). Integrating PC specialists and ROs will be key in improving education endeavors, because most ROs attending do not feel comfortable teaching or demonstrating PC skills and practices particularly those involving non-pain symptoms, distress, and spiritual or psychosocial elements of care (24). Over the past few years much effort has been spent to better educate the RO communities about PC. Recent developments include the creation of dedicated

rapid turn-around palliative radiation oncology programs with integrated PC services, the founding of the Society for Palliative Radiation Oncology (SPRO), and increased efforts by the American Society of Radiation Oncology (ASTRO) to better educate its members and the public. These initiatives aim to improve the PC experience for patients and physicians by encouraging RO to be more dedicated to PC principles and practices. Insights gained by these collaborations will continue to identify and correct deficits in the training of ROs and help subsequent trainees be better equipped with PC skills. Continued efforts on these fronts, as well as, working with regulatory and medical boards like the American Board of Radiology and the ACGME to lay out concrete educational agendas and implement curriculum specifically for ROs will buttress PC training and delivery, and build on a century of palliative radiation therapy experience.

Surgical oncology

The provision of PC in surgery is a relatively new paradigm which builds on a long held tradition. The term "palliative care" was first coined by a surgeon, Balfour Mount, MD, to describe a type of comprehensive, interdisciplinary, patient-centered care that provided symptom relief to dying patients (48). In fact, the delivery of PC has been practiced by surgeons via multiple interventions over generations. The Billroth procedures, the Halsted radical mastectomy, the Whipple procedure, all were initially designed to provide a more peaceful and less symptomatic death in patients with terminal cancer (49). This tradition continues and grows as surgeons consider and explore new ways to improve the care of incurable illnesses. Most notably a small cadre of surgeons have received specialized training in PC, some have developed palliative surgical procedures, and more have begun evaluating the ethics of their interactions with patients. Yet even as this improvement occurs, surgeons are still severely limited in delivering PC secondary to notable gaps in surgical education.

The demand for PC from all oncology specialties is acute and SO cannot escape this reality. Despite the recommendation and requirements espoused by specialty organization such as the Society of Surgical Oncology (SSO) and ASCO, Surgical Oncologist currently lack the basic skills needed to deliver PC care. This issue is multifaceted. First, until recently SO often considered their role in PC as only the provision of palliative surgery. Today surgical palliation is defined as the deliberate use of a procedure with the intention of relieving symptoms, minimizing distress, and improving quality of life (50). Second, PC education in training is lacking. Recent studies of both fellows and program directors demonstrate a lack of basic PC proficiency despite a near universal belief in the utility of this education (22,25). Lastly, research and literature for surgical focus of PC is lacking. Despite general acknowledgement of the need, only limited textbook and online resources on PC in surgery currently exists (51). Additionally, there is a significant lack of communication skills training in medical school, residency and fellowship training. In complex general surgical oncology, communication skills are paramount as we often deal with life-and-death situations (52,53). Current recommendations for surgical competencies including interpersonal and communication skills, but there is no clear agreement as to the exact curricular needs or methods for teaching or evaluation. All that most can agree on is that graduates need to improve their knowledge, attitudes, and skills in PC and provisions of palliative surgical intervention.

While there remain gaps in PC education, efforts have been proposed and are currently underway to address them. Despite the barrier of adding to the already-crowded SO curriculum, the new status of Complex General Surgical Oncology as an ACGME certified specialty allows further standardization of curriculum. This will allow experts in PC to work with the ACGME and the SSO on clarifying the currently vague requirements for PC education. Going forward efforts should be focused at both the local institutional and national levels. Locally fellows could have exposure to PC services and training by scheduled didactic curriculum or online modules (i.e., ACS Palliative Care Curriculum). This would allow for direct feedback from PC faculty specifically trained to teach these skills. Alternatively, if PC specialists are not available, fellowships might identify core faculty to serve as PC experts. Lastly, programs should consider strategic partnerships with established PC programs, which would allow for collaboration and simultaneously enhance both groups. Nationally the SSO in concert with the ACGME could work toward the development or utilization of established curriculum materials or use validated communication programs in person or online (i.e., Vital Talk, Conversation project, Oncotalk) (25). Given the complexity of the conversation and the decision-making that goes in all aspects of oncology care, development of a "Surgitalk" would be a much needed addition across surgery. Additionally, a short educational course could be developed to administer at

national meetings similar to current offerings (SSO Fellows Institute, AHPBA Fellows Course). These efforts would allow fellows to interact with multiple national experts in a didactic and dynamic way to augment any gaps in their local programs.

At base, our governing bodies should study and determine what baseline PC expertise should be provided by SO in training and in practice. In this process the previously noted guidelines and standards for cancer and PC can provide a blueprint to guide surgeon-specific competency selection and educational implementation (5,7,48). Identifying these needs and other gaps in the delivery and receipt of PC education in Surgical Oncology are important steps toward the continued growth of our field in oncology. SOs should capitalize on their establish history in PC and retake a role in leadership, scholarship and growth of this field (8,54).

Limitations

Despite recognition of the value and need for better PC education, adding additional curriculum to already full training programs remains a challenge. Efforts to improve education in PC must be balanced and measured to avoid causing trainee burnout. Additionally since many oncologists don't currently feel comfortable teaching some PC topics, coordination between training programs and establish specialty PC providers is necessary to ensure all principles are properly taught and addressed. Such cooperation is often challenging given the differences in schedule and practices.

Conclusions

The oncology specialties share common concerns and difficulties implementing quality PC education. The gaps and deficits in PC education among oncologists must be improved to assure quality and appropriate cancer care for all patients. Oncologists need to be more than just physicians providing chemotherapy, radiation, or surgery with palliative intent; they need to be integrated members of the palliative team with the appropriate education, skills, and training to meaningfully contribute to the palliative management of their patients. Efforts to improve, standardize, and vitalize the education of oncology specialists are essential to this goal and will require collaborative multifaceted approaches. These endeavors will ensure all patients receive comprehensive and quality cancer care consistent with clinical recommendations and national standards (4-7).

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Footnote

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