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REVIEW

Hospitalists Caring for Patients With Advanced Cancer: An Experience-Based Guide

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Every year, nearly 5 million adults with cancer are hospitalized. Limited evidence suggests that hospitalization of the cancer patient is associated with adverse morbidity and mortality. Hospitalization of the patient with advanced cancer allows for an intense examination of health status in the face of terminal illness and an opportunity for defining goals of care. This experience-based guide reports what is currently known about the topic and outlines a systematic approach to maximizing opportunities, improving quality, and enhancing the well-being of the hospitalized patient with advanced cancer. *Journal of Hospital Medicine* 2016;11:292–296. © 2015 Society of Hospital Medicine

Every year in the United States, approximately 4.7 million cancer-related hospitalizations and 1.2 million hospital discharges with cancer as the principal diagnosis occur.[1] Limited evidence suggests that hospitalization of the cancer patient is associated with increased morbidity and mortality[2]; average length of survival of patients with advanced cancer after unplanned hospitalization is 3 to 5 months.[3] Furthermore, hospitalization of the cancer patient presents unique challenges in goals of care discussions and patient preferences. Given the high burden of cancer-related hospitalization and limited survival in patients with advanced cancer, we must consider how hospitalists provide care for these patients. In this article, we describe the Hospital Medicine Service at Memorial Sloan Kettering Cancer Center (MSKCC) and use a hypothetical illustrative case (*italicized*) to provide a guide for inpatient care of the medical patient with advanced cancer while reviewing the current literature.

CLINICAL EXAMPLE

Mrs. A is a 70-year-old woman with recently diagnosed unresectable pancreatic adenocarcinoma, currently undergoing palliative chemotherapy with gemcitabine, who is admitted to the hospital with progressive early satiety, nausea, and increased abdominal girth. She attributes these symptoms to side effects of chemotherapy and presented to the emergency room when she developed intractable nausea and vomiting. How should her acute symptoms be evaluated and addressed? What is the hospitalist's role in her long-term oncologic care? Is Mrs. A aware that her symptoms may be due to progression of disease rather than chemotherapy side effects? What is the best way to deliver information to Mrs. A? Who else should be involved in her care? What are her options upon discharge from the hospital?

HOSPITAL MEDICINE AT MSKCC

The Hospital Medicine Service at MSKCC consists of 7 full-time academic hospitalists who attend on the gastrointestinal oncology, lymphoma, and general medicine inpatient services, as well as a larger number of nocturnists who work exclusively at night. In addition to being board certification in internal medicine, 1 member is board certified in medical oncology and 4 members are board certified in hospice and palliative medicine. In a recent article, we describe our experience with patients on our inpatient gastrointestinal oncology service; patients with pancreatic cancer accounted for a quarter of all inpatient admissions, and 90% of all patients had been diagnosed with metastatic disease.[4]

HOSPITALIZATION OF THE PATIENT WITH ADVANCED CANCER AND ROLE OF THE HOSPITALIST

Hospitalization of the patient with advanced cancer leads to an intense examination of health status in the face of terminal illness and an opportunity to explore patient preferences and define goals of care. It is a unique opportunity whereby hospitalists, serving as the primary inpatient physician for these patients, can encourage critical analysis of health and stimulate conversations about care. Hospitalization is a time of intense scrutiny and can reveal previously unknown medical, social, cultural, psychological, and spiritual

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concerns that often declare themselves in acute illness.[2,3]

Care requires consideration not only of the malignancy and its complications, but also comorbidities that affect quality of life in terminal illness. Coordinating care in the hospitalized patient with advanced cancer is paramount; hospitalists are experts in hospital-based care processes and can efficiently organize care between a patient's oncologist, consultants, nursing staff, social work, and case management. Coordination of care may possibly shorten length of stay, improve efficiency, and improve patient satisfaction. As hospitalists at a major cancer center, our experience has informed us of many issues involving care of these patients. Therefore, we offer the following guidelines.

PRACTICAL GUIDELINES FOR COORDINATING CARE IN HOSPITALIZED PATIENTS WITH ADVANCED CANCER

Diagnose and Treat Acute Illness and Put Into Context of Underlying Cancer

Data from the Healthcare Cost and Utilization Project Nationwide Inpatient Sample on hospitalization in adults with cancer reported that the most frequent principal diagnoses were pneumonia, septicemia, maintenance chemotherapy or radiotherapy, congestive heart failure, chronic obstructive pulmonary disease, cardiac dysrhythmias, complications of surgical or medical care, osteoarthritis, complication of device, and fluid and electrolyte disorders.[1] A separate study of patients with gastrointestinal cancer found that the most common reasons for unplanned hospitalization were fluid and electrolyte disorders, intestinal obstruction, and pneumonia.[5] Among our patients on the gastrointestinal oncology service, fever and pain were the 2 most common reasons for hospitalization.[4] The underlying natural disease course of cancer also deserves attention, and it is useful for patients and their families to understand this context. Patients may not realize that their acute symptoms are related to progression of cancer, and putting their symptoms into this context may be helpful. Acute illnesses that may be curable in isolation may not be so in the patient with advanced cancer, and trying to do so may cause more harm than good. Thus, placing the acute illness in the broader context of the cancer diagnosis is essential to the delivery of quality care.

In the case of Mrs. A, her symptoms were evaluated in the emergency room with a computed tomography (CT) scan of the abdomen and pelvis. Compared to her initial CT scan prior to beginning chemotherapy, there is now increased size of her primary pancreatic mass causing gastric outlet obstruction with a distended fluid-filled stomach and new peritoneal carcinomatosis with a large amount of ascites.

Identify Decision Makers, Clarify Health Literacy, Manage Expectations, and Provide Anticipatory Guidance

Physicians should inquire about how medical decisions are made for each individual patient, as there is variability in the degree to which patients prefer to be involved in the process. If capacity is being threatened, a healthcare proxy should be designated for future decision making. If a patient is found to lack capacity in decision making, a surrogate should negotiate medical decisions.

Health literacy should be assessed so that patients are not misinformed in the decision-making process. Begin by asking how much the patient would like to know and communicate with clear language. A probing question that we ask is: "Some patients want to know everything about their medical care and others prefer that we communicate with family members. What is your preference?" Explain the disease course of acute illness and provide anticipatory guidance on recovery.

It is essential for the hospitalist to understand what role the oncologist will play in the inpatient decision-making team. In certain settings, the hospitalist is entirely responsible for inpatient care, and the oncologist plays an important but background role. In other settings, there may be a comanagement arrangement between the hospitalist and the oncologist. Understanding what role the oncologist will play and establishing clear communication at key decision points is necessary to ensure coordinated quality care. Reassuring the patient and family that the hospitalist maintains communication at key points with the oncologist is also important to building a trusting relationship.

We discuss the CT scan results with her oncologist over the phone and agree that further workup and interventions will focus on improving quality of life. No further chemotherapy is planned. Mrs. A is anxious to hear about her CT scan results, and though she has capacity for medical decision making tells us during rounds that she would like her husband and daughter to be present for the discussion.

Clarify Patient Understanding of Cancer and Goals of Care

The previous discussions will hopefully allow patients to have a full understanding of their acute illness and cancer. Further discussions may lead to shifting goals of care. To begin this process, physicians should clarify whether patients truly understand treatment intent. One study found that one-third of patients with metastatic lung cancer thought they were receiving therapy with curative intent despite reports from their oncology team that they had been told prognosis and goals of care.[6] In 1 study of patients with head and neck cancer, 35% of patients believed palliative radiation to be curative.[7] Thus, it is critical to clarify the intent

of treatment and manage expectations in regard to efficacy.

Patients may be hospitalized to undergo a procedure. It is critical to describe the rationale if these are palliative procedures. Among patients with gastrointestinal malignancies, we offer several procedures including drainage percutaneous gastrostomy for malignant small bowel obstruction, celiac plexus neurolysis for intractable pain, and stenting for symptomatic malignant biliary obstructions. In conversations describing these interventions and in the process of obtaining consent, it is crucial to explain their palliative intent.

Physicians should inquire about any advanced directives and ask hypothetical questions to assist in ascertaining goals of care. One study found that clearly documented advanced directives in patients with advanced cancer are completed approximately 25% of the time.[8] Goals-of-care discussions should include a discussion of palliative medicine and its role, beginning at diagnosis of advanced cancer, continuing throughout treatment, and providing end-of-life and follow-up care. A landmark study by Temel et al. demonstrated that among patients with metastatic non–small-cell lung cancer, early palliative care led to significant improvement in quality of life and mood, less aggressive care at end of life, and longer survival.[9]

Later that day, we return to the bedside after Mrs. A's family arrives. Our conversation reveals that they possess a good understanding of the palliative treatment intent of chemotherapy in her care. We review the CT scan findings and put these findings into the context that her cancer is progressing despite chemotherapy. They tell us that they want us to do whatever is going to help her feel better. We inform her of palliative interventions that we can offer to improve her symptoms and quality of life, namely a duodenal stent to relieve her gastric outlet obstruction to allow oral intake and Tenckhoff catheter for drainage of malignant ascites to relieve her abdominal distention and allow drainage of ascites at home. We discuss the role of hospice upon discharge from the hospital, and all agree that home hospice care is medically indicated and most consistent with her desire to be at home when her condition worsens. We address code status, and she tells us of her desire to have a natural death and we inform her a DNR order will be placed into her chart to which she agrees.

Make a Determination of Performance Status and Prognosis

The Eastern Cooperative Oncology Group (ECOG) score[10] is a simple measure of performance status in cancer patients that can be used to determine disease progression, prognosis, and resiliency to receive chemotherapy, and the physician should use this to ascertain baseline functional status. When combined with information about severity of current acute illness, the physician can estimate expected recovery.

In regard to prognostication, illness trajectories are conceptually and clinically useful. Three typical illness trajectories have been described in patients with progressive chronic illness: cancer, organ failure, and the frail elderly or dementia trajectory.[11,12] These trajectories describe loss of function over time. The trajectory for cancer shows a period of clinical stability that is typically followed by a clear terminal phase with rapid reduction in performance status and impaired ability to care for self. The rapidity of this functional decline in advanced cancer can hinder the patient and family members' acceptance of the reality, and normalizing this pattern can be very helpful.

Using performance status, illness trajectories, generic prognosis based on cancer type, line of treatment, and input from the treating oncologist, physicians should estimate a prognosis. Prognosis can inform medical and nonmedical decision making. Prognostic uncertainty for patients can lead to uninformed decision making and hinder life planning. Wright and colleagues found that end-of-life discussions in patients with advanced cancer were associated with less aggressive medical care (eg, ventilation and resuscitation) near death and earlier hospice referrals. More aggressive care was found to be associated with worse patient quality of life and worse caregiver bereavement adjustment. Despite this, only 31% of dying cancer patients reported having direct discussions about death with their physicians.[13]

Often, physicians are concerned that hope is diminished when prognostic information is given. A study from Smith and colleagues showed that hope is maintained when patients with advanced cancer are given truthful prognostic and treatment information, even when the patient's chance of survival and being cured are zero.[14] Several studies identify the shortcoming of physicians when it comes to discussing end-of-life issues. In an exploratory analysis interviewing physicians and families of patients who died in the hospital, families reported that the attending physician never discussed the possibility of death 62% of the time, and that no one on the medical team discussed the possibility of death in 39% of cases.[15] A recent study by Rocque et al. surveyed admissions on an inpatient medical oncology service and found that despite a poor median survival of 4.7 months in the year 2000 and 3.4 months in 2010, hospice was recommended less than one-quarter of the time, and 70% of patients were discharged home without additional services.[3]

During the conversation, Mrs. A's family inquires about prognosis. We assessed her performance status to be ECOG 3. We also note that the presence of malignant ascites and malignant bowel obstruction both portend a generic prognosis of less than 6 months. This information along with our knowledge of the illness trajectory for cancer allows us to

estimate a prognosis of weeks to months. We communicate this prognosis to Mrs. A and her family and though saddened by the news, they are appreciative, as it will allow them to plan for her end-of-life care.

Assemble a Multidisciplinary Team

Patients with advanced cancer have complex needs that must be met within a short period of time, and it is essential for all clinical staff to be involved. If symptoms remain uncontrolled or end-of-life issues are looming, consultants in palliative medicine are experts in management of such issues. Case management is vital in establishing a discharge plan, as they possess information on prior discharge planning and readmissions, which may be more common in patients who do not have a clear understanding of their prognosis or when a discrepancy exists between physician-communicated and patient-perceived prognoses. Nursing and social work staffs are fundamental in exploring the role of the patient, family, and other caregivers who are involved in caring for the patient as well as the dynamics of interaction between them. Chaplaincy assists patients with spiritual needs and concerns. Throughout these interactions, it is important that communication remains clear, and any messages being conveyed by staff remain consistent. In line with this approach, we have found the importance of having all members on a single unit who are accustomed with particular cancer diagnoses and prognoses, as this familiarity and experience facilitates coordinated care. Acknowledging that such specialization of staff may be unrealistic in settings other than the comprehensive cancer center, the hospitalist's role as care coordinator is even more important.

Mrs. A undergoes duodenal stent placement and Tenckhoff catheter placement. She is now able to intake small amounts of food and liquids without nausea and vomiting. Her abdominal distention is relieved with ascites drainage, and she jokes she will be ready for swimsuit season soon. Our nurses and social worker work with Mrs. A and her family to assure she can adequately care for herself and has proper support at home. Our case manager identifies a nursing agency that provides home hospice care. She is discharged on hospital day 5 relieved of her symptoms.

Address System-Level Challenges

A study examining family perspectives on end-of-life care found that many people dying in institutions have unmet needs for symptom relief, physician communication, emotional support, and being treated with respect. Family members of decedents who received home hospice services were more likely to report a favorable dying experience.[16] Despite the appropriateness of hospice care for patients with advanced cancer, there are often challenges in making hospice a functioning reality. The delivery of hospice's promises depends on individual hospice nurses and agencies. Patients may want to retain their oncologist as their hospice physician (versus the medical director of the hospice agency) when enrolled in hospice. Although this is beneficial for continuity, it may be detrimental in cases where the oncologist is unfamiliar with particular hospice practices or has not received training in end-of-life care. Hospice services also greatly differ by region in terms of services offered, level and frequency of involvement, and availability of inpatient hospice services if necessary. Few acute care hospitals offer hospice care, and for many patients who have undergone intensive treatment at 1 institution, it may feel like abandonment if patients are then asked to transition care to a hospice organization. Therefore, although hospice is beneficial to the patient with advanced cancer, the physician should become familiar with the local system-level challenges and barriers for this option and try to overcome them whenever possible.

Although we believe we have developed a strong model at our center for hospitalists to primarily care for patients with cancer, we recognize institutional challenges that may exist. Patients may expect their oncologist to primarily provide inpatient care, and issues of trust may emerge that require expectation management and reassurance. Hospitalists may feel uncomfortable and uncertain diagnosing and treating complications of advanced cancer, which may require education and experience. Due to the severity of illness and intensity of services required for patients with advanced cancer, hospitalists may face challenges related to increased length of stay, more frequent readmissions, and increased resource utilization and cost of hospitalization that may prompt questions about the quality of care being delivered, even if those concerns are unfounded. Hospital administration may be tentative about patients with cancer being cared for primarily by hospitalists, which may be ameliorated by recognition that a majority of medical issues faced by the hospitalized patient with cancer is within the realm of a hospitalist's capabilities and scope of practice. We have faced these challenges at our own institution and are optimistic that they can be overcome at other institutions.

CONCLUSIONS

Although this article provides a guide based on our experience and review of the literature, there are several potential areas of further investigation for hospitalists caring for patients with advanced cancer. Research areas including examining the impact of hospitalist versus oncologist inpatient care on length of stay, readmissions, resource utilization, patient satisfaction, and outcomes for patients with a broad array of cancer diagnosis remains to be delineated. Issues involving patient-physician communication are also of interest to assess patients' preferences in the communication of bad news by hospitalists versus primary oncologists. The role of hospitalists as providers of

primary palliative care in the inpatient setting and the impact on outcomes also warrants further investigation. Finally, the effects of formal use of guides such as the one proposed deserve further attention.

The care of the hospitalized patient with advanced cancer can be extremely gratifying, although the challenges are significant. An organized approach to maximizing opportunities, improving quality, and enhancing patient well-being has been outlined in this article. Because patients with advanced cancer have complicated medical, surgical, nursing, spiritual, and social needs, the hospitalist-led multidisciplinary team is very well suited for this population.

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References

1. Anhang Price R, Stranges E, Elixhauser A. Cancer hospitalizations for adults, 2009. Agency for Healthcare Quality and Research. HCUP statistical brief #125. Agency for Healthcare Research and Quality, Rockville, MD. Available at: http://www.hcup-us.ahrq.gov/reports/statbriefs/sb125.pdf. Published February 2012. Accessed May 15, 2015.
2. Shayne M, Culakova E, Poniewierski MS, et al. Risk factors for in-hospital mortality and prolonged length of stay in older patients with solid tumor malignancies. *J Geriatr Oncol*. 2013;4:310–318.
3. Rocque GB, Barnett AE, Illig LC, et al. Inpatient hospitalization of oncology patients: are we missing an opportunity for end-of-life care? *J Oncol Pract*. 2013;9:51–54.
4. Koo DJ, Goring TN, Saltz LB, et al. Hospitalists on an inpatient tertiary care oncology teaching service. *J Oncol Pract*. 2015;11:e114–e119.
5. Manzano JGM, Luo R, Elting LS, George M, Suarez-Almazor ME. Patterns and predictors of unplanned hospitalization in a population-based cohort of elderly patients with GI cancer. *J Clin Oncol*. 2014; 32:3527–3533.
6. Mackillop WJ, Stewart WE, Ginsburg AD, Stewart SS. Cancer patients' perceptions of their disease and its treatment. *Br J Cancer*. 1988;58:355–358.
7. Chow E, Andersson L, Wong R, et al. Patients with advanced cancer: a survey of the understanding of their illness and expectations from palliative radiotherapy for symptomatic metastases. *Clin Oncol (R Coll Radiol)*. 2001;13:204–208.
8. Kish S, Martin C, Price K. Advance directives in critically ill cancer patients. *Crit Care Nurs Clin North Am*. 2000;12:373–383.
9. Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med*. 2010;363:733–742.
10. Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. *Am J Clin Oncol*. 1982;5:649–655.
11. Lynn J, Adamson DM. Living well at the end of life: adapting health care to serious chronic illness in old age. RAND Corporation, WP-137, 2003. Available at: http://www.rand.org/content/dam/rand/pubs/white_papers/2005/WP137.pdf. Accessed May 15, 2015.
12. Glare PA, Christakis NA. Predicting survival in patients with advanced disease. In: Doyle D, Hanks G, Cherny N, Calman K, eds. Oxford Textbook of Palliative Medicine. Oxford, United Kingdom: Oxford University Press; 2004.
13. Wright A, Zhang B, Ray A, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA*. 2008;300:1665–1673.
14. Smith TJ, Dow LA, Virago E, et al. Giving honest information to patients with advanced cancer maintains hope. *Oncology*. 2010;24: 521–525.
15. Sullivan AM, Lakoma MD, Matsuyama RK, Rosenblatt L, Arnold RM, Block SD. Diagnosing and discussing imminent death in the hospital: a secondary analysis of physician interviews. *J Palliat Med*. 2007;10:882–893.
16. Teno JM, Clarridge BR, Casey V, et al. Family perspectives on end-of-life care at the last place of care. *JAMA*. 2004;291:88–93.