

Quality of life, heart rate, breathing, and pain: palliative care parameters and symptoms

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Palliative care is specialized medical care for patients with serious illnesses. Palliative care focuses on providing patients with relief from the symptoms from their illness to improve quality of life both for patients and their families. In this issue of *Annals of Palliative Medicine*, Agarwal *et al.* report their findings from their prospective study assessing quality of life before and 12 months after definitive therapy for oral tongue cancer (1). They found that treatment with resection and adjuvant radiation therapy improves pain scores, overall activity, recreational activities, and mental status. This is in keeping with prior reports showing that cancer-directed therapy with the intent to treat the underlying malignancy and improve clinical outcomes, when combined with early palliative care, can improve quality of life and also improve overall survival (2).

However, treatments intended to treat the underlying malignancy and/or improve quality of life can also cause lead to toxicity (3). Despite assessing a late 12-month time point, at which time acute toxicities from therapy would be expected to have resolved, treated patients in the study by Agarwal *et al.* had declines from radiotherapy in several quality of life domains, including swallowing, taste, and salivary production. This underscores the importance of adhering to radiotherapy dose constraints and also applying advances in technology to limit acute and late toxicities for patients being treated with definitive radiation therapy for head and neck malignancies (4).

In another prospective study in this issue of *Annals of Palliative Medicine*, Masel *et al.* assessed whether heart rate variability correlated with the likelihood of discharge versus death for patients in an inpatient palliative care unit (5).

Dysfunction of the autonomic nervous system identified by heart rate variability has previously been shown in patients with terminal disease conditions to be associated with a lower performance status and shorter overall survival (6,7). Although Masel *et al.* did not find a significant correlation between heart rate variability and discharge, discharge and thus survival were found to correlate with performance status. This reaffirms that performance status remains a leading parameter for which survival can be predicted in patients with advanced diseases (8).

Pain has a considerable deleterious impact on patient welfare. Pain remains one of the most common reasons for outpatients to seek medical attention. Acute pain is a leading cause of emergency department visits and is one of the biggest concerns for hospital inpatients. In addition to decreased quality of life, chronic pain can lead to significant health and societal costs from loss of productivity. Although there have been recent advances in understanding the pharmacology and physiology of pain, few new pain agents have made it into clinical practice in recent years. As such, pharmacological management of pain has increasingly relied on a multimodality approach and applying new indications to older agents. In this issue of *Annals of Palliative Medicine*, Schug and Goddard author a comprehensive review of newer medications to treat pain and detail new guidelines and indications for the use of established, older medications (9).

Lal and Case similarly author a comprehensive review of palliative medicine for chronic obstructive pulmonary disease (10), a progressive disease characterized by airflow limitations that are not fully reversible and associated with an abnormal inflammatory response of the lungs to noxious

particles or gases. COPD is a leading cause of morbidity in both developed and developing countries and is the third leading cause of death worldwide (11). Dyspnea is the most common symptom experienced by patients with COPD, and it can have a significant impact on quality of life and patient functioning. In addition to the clinical and physiologic effects of the condition, COPD is commonly associated with concomitant depression, anxiety, and patient distress (10). Despite this profound disease scope and symptomatic burden, reports and guidelines on palliative management of COPD are limited, and significant barriers to palliation for COPD symptoms exist. Lal and Case detail both the physical and psychosocial symptoms of COPD, describe barriers to palliative care for COPD, and discuss COPD treatment options.

Lastly, this issue of *Annals of Palliative Medicine* marks the first issue to include the new and now recurring column, Palliative Radiotherapy. This column will include original research manuscripts, timely review articles, editorials, and commentaries relating to palliative radiotherapy. The Palliative Radiotherapy Subcommittee Chairmen, Stephen Lutz and Edward Chow, detail the history of palliative radiotherapy, describe current clinical practices, and discuss future directions for palliative radiotherapy (12). They also preview a series of upcoming papers by the Palliative Radiotherapy Subcommittee that will highlight the benefits, controversies, and future of palliative radiotherapy. In a second manuscript, Johnstone and Lutz review the current literature and make recommendations regarding the use of hypofractionated radiotherapy to treat non-osseous metastatic or uncontrolled local cancer (13). They describe how hypofractionation, which is the use of a smaller number of larger sized fractions (3-8 Gy) of radiation therapy, is an ideal treatment option for palliation to allow for greater patient convenience with a shorter treatment course, is cost effective, and can minimize the risks of late toxicities across a number of disease sites and conditions.

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