

The impact of performance status, psychosocial interventions, and early palliative care on overall survival

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In the April 2016 issue of *Annals of Palliative Medicine* (APM), Perri and colleagues perform a novel analysis on end-stage liver disease (ESLD) (1). ESLD is a leading cause of death, and patients with this condition are increasingly requiring the services of palliative care providers. Although death from ESLD is generally gradual, patients can require frequent hospitalizations for acute disease complications and exacerbations. However, unlike other conditions with a more predictable end-of-life decline, the authors discuss that palliative care too often is initiated only when death from ESLD is thought to be imminent. The authors sought to characterize the illness experience of patients with ESLD admitted to the Baycrest Health Sciences Palliative Care Unit in Toronto, Canada, and they compared ESLD patients to other noncancer patients. They found that nearly one-fifth of all admissions to the palliative care unit were for patients with ESLD, and that these patients had higher Palliative Performance Scores than other noncancer patients. Dispelling prior perceptions, length of stay was not found to be different between ESLD patients and other patients.

In keeping with prior studies (2), the Palliative Performance Score in the analysis by Perri *et al.* was a better predictor of survival than clinician estimated prognosis, which overestimated life expectancy. This is consistent with the analysis by Cheon and colleagues on the accuracy of clinician's predictions of survival that was featured in the last issue of APM (3). An additional and interesting finding among ESLD patients was that estimated prognosis and Palliative Performance Scores did not translate to longer survival, and that many ESLD patients die earlier than other noncancer patients despite a better admission functional

status. This is different from previous reports in the palliative care literature that lower Palliative Performance Scores correlate with shorter length of survival (4). It is unclear if this is a unique phenomenon of ESLD, and additional studies focusing on that disease population are needed.

In keeping with provider prognosis assessments, in this issue, Chow and colleagues perform a systematic review on the reliability of performance status assessment among healthcare providers (5). They identified 15 articles that compared performance status assessments between providers, most commonly comparing assessments of providers across different disciplines. Only six studies reports strong reliability between assessments, and three studies had a notable lack of agreement. Of note, this analysis suggested that Karnofsky performance status (KPS) may have better inter-rater reliability than either the Eastern Cooperative Oncology Group Performance Status (ECOG PS) or the Palliative Performance Scale. The lack of high correlation found in this study underscores the importance of training programs or other means of standardizing performance-scoring assessments. This analysis and striving towards standardization of assessments is of importance since performance status has been demonstrated to correlate with prognosis and outcomes (6,7). It is also of importance since providers commonly use performance status to guide treatment decisions, assess eligibility for clinical trials, or determine when to discuss hospice with patients and families.

A meta-analysis on the impact of psychosocial intervention on survival in cancer is reported in this issue by Fu *et al.* (8). Given that approximately one-third of all

cancer patients are affected by long-term clinical anxiety and depression (9), psychosocial interventions are logical and well studied treatments. These interventions generally focus around cognitive-existential group therapy, cognitive-behavioral therapy, supportive-expressive group therapy, and/or psychoeducational therapy. The authors focused their analysis to 13 randomized controlled trials assessing survival following a psychosocial intervention, and they found a significant survival benefit with these interventions at one year ($P=0.04$) and two years ($P=0.003$), although this benefit was lost at four years ($P=0.24$). The survival benefit determined in this meta-analysis is in keeping with a prior meta-analysis on psychosocial interventions that was reported by Xia *et al.* (10). The current analysis also suggests that group-delivered interventions may have a bigger impact on survival than individually-delivered interventions.

Following the report on advances in managing radiation-induced pain flare in the last issue of *APM* (11), the current issue of the journal Bushehri *et al.* author an original report on the pathophysiology of pain flare through assessments of changes in urinary cytokines and chemokines in patients receiving external beam radiation therapy for painful bone metastases in (12). The study included 28 evaluable patients treated with a single 8 Gy fraction for painful bone metastases who provided serial urine samples and completed an analgesic use diary. Although the use of external beam radiotherapy can effectively palliate symptoms (13), palliative irradiation is known to be associated with a risk of pain flare (14), potentially due to inflammatory mediators. Pain flare was seen in 39% of patients of the current study. Patients who experienced a pain flare were found to have a different pattern in urinary cytokine and chemokine levels than non-flare patients. This study is certainly hypothesis generating, and it may hold clues to helping to mitigate pain flare occurrence in the future.

Chiu and colleagues perform a descriptive analysis of radiological changes on CT imaging after stereotactic body radiation therapy (SBRT) to non-spine bone metastases (15). Despite the increasing use of SBRT (16), and a recent review detailing the outcomes and toxicities of SBRT for non-spine bone metastases (17), very limited data exist examining the radiological changes in bone metastases after SBRT. As a result, there is no consensus about what constitutes a radiologic response to SBRT. Chiu *et al.* identify several different radiological changes, including remineralization of lytic bone metastases, demineralization of sclerotic bone metastases, pathologic fractures, size

progression and response, and fibrosis. While these findings may help to lead to future definitions of response to this advanced treatment modality, additional larger studies correlating radiologic changes with clinical outcomes will be needed for any such consensus.

The importance of early palliative care in improving quality of life and even overall survival is increasingly being recognized (18), and it was the subject of a special issue in this journal in 2015 (19,20). In this issue, Janssens and colleagues describe the importance of early palliative care to optimize quality of life for patients with advanced lung cancer (21), a patient population that often experiences a high symptomatic burden that can include pain, dyspnea, cough, hemoptysis, weight loss, and depression (22,23). This report underscores the importance of optimizing communication between the treating oncologist and patients to allow patients to have as complete of an understanding about their illness as possible. This understanding can enable patients to make informed choices and elect for symptom control measures, which can result in improvements in quality of life (21).

This issue of *APM* is concluded by a provocative review article by Knisely and colleagues on manipulating the Hippo-Yap signal cascade in stem cells for potential cardiac regeneration (24), as well as a pair of interesting case studies. In the first case study, Purkayastha and Sharma describe the largest soft tissue metastatic swelling from breast carcinoma ever reported (25). In the second, Ganesh *et al.* report the case of a patient with appendiceal adenocarcinoma, itself a highly rare malignancy, with an unusual presentation of metastasis to the pelvic bone (26).

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Footnote

Conflicts of Interest: The author has no conflicts of interest to declare.

References

1. Perri GA, Bunn S, Oh YJ, ET AL. Attributes and outcomes of end stage liver disease as compared with other noncancer patients admitted to a geriatric palliative care unit. *Ann Palliat Med* 2016;5:76-82.
2. Downar J, Chou YC, Ouellet D, et al. Survival duration

- among patients with a noncancer diagnosis admitted to a palliative care unit: a retrospective study. *J Palliat Med* 2012;15:661-6.
3. Cheon S, Agarwal A, Popovic M, et al. The accuracy of clinicians' predictions of survival in advanced cancer: a review. *Ann Palliat Med* 2016;5:22-9.
 4. Lau F, Maida V, Downing M, et al. Use of the palliative performance scale (PPS) for end-of-life prognostication in a palliative medicine consultation service. *J Pain Symptom Manage* 2009;37:965-72.
 5. Chow R, Chiu N, Bruera E, et al. Inter-rater reliability in performance status assessment among health care professionals: a systematic review. *Ann Palliat Med* 2016;5:83-92.
 6. Chow E, Abdolell M, Panzarella T, et al. Predictive model for survival in patients with advanced cancer. *J Clin Oncol* 2008;26:5863-9.
 7. Evans C, McCarthy M. Prognostic uncertainty in terminal care: can the Karnofsky index help? *Lancet* 1985;1:1204-6.
 8. Fu WW, Popovic M, Agarwal A, et al. The impact of psychosocial intervention on survival in cancer: a meta-analysis. *Ann Palliat Med* 2016;5:93-106.
 9. Mehnert A, Brähler E, Faller H, et al. Four-week prevalence of mental disorders in patients with cancer across major tumor entities. *J Clin Oncol* 2014;32:3540-6.
 10. Xia Y, Tong G, Feng R, et al. Psychosocial and Behavioral Interventions and Cancer Patient Survival Again: Hints of an Adjusted Meta-Analysis. *Integr Cancer Ther* 2014;13:301-9.
 11. Chiu N, Chiu L, Popovic M, et al. Latest advances in the management of radiation-induced pain flare, nausea and vomiting. *Ann Palliat Med* 2016;5:50-7.
 12. Bushehri A, Chow E, Zhang L, et al. Urinary cytokines/chemokines pattern in patients with painful bone metastases undergoing external beam radiotherapy experiencing pain flare. *Ann Palliat Med* 2016;5:107-15.
 13. Jones JA, Simone CB 2nd. Palliative radiotherapy for advanced malignancies in a changing oncologic landscape: guiding principles and practice implementation. *Ann Palliat Med* 2014;3:192-202.
 14. Simone CB 2nd. Quality of life, predictions of survival, feeding options, and symptom control for patients with advanced disease. *Ann Palliat Med* 2016;5:E1-3.
 15. Chiu N, Probyn L, Raman S, et al. Radiological changes on CT after stereotactic body radiation therapy to non-spine bone metastases: a descriptive series. *Ann Palliat Med* 2016;5:116-24.
 16. Simone CB 2nd, Wildt B, Haas AR, et al. Stereotactic body radiation therapy for lung cancer. *Chest* 2013;143:1784-90.
 17. Bedard G, McDonald R, Poon I, et al. Stereotactic body radiation therapy for non-spine bone metastases—a review of the literature. *Ann Palliat Med* 2016;5:58-66.
 18. 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;363:733-42.
 19. Gaertner J, Lutz S, Chow E. Early palliative care: philosophy vs. reality. *Ann Palliat Med* 2015;4:87-8.
 20. Simone CB 2nd. Early palliative care and integration of palliative care models in modern oncology practices. *Ann Palliat Med* 2015;4:84-6.
 21. Janssens A, Kohl S, Michielsen T, et al. Illness understanding in patients with advanced lung cancer: curse or blessing? *Ann Palliat Med* 2016;5:135-8.
 22. Simone CB 2nd, Vapiwala N, Hampshire MK, et al. Palliative care in the management of lung cancer: analgesic utilization and barriers to optimal pain management. *J Opioid Manag* 2012;8:9-16.
 23. Simone CB 2nd, Jones JA. Palliative care for patients with locally advanced and metastatic non-small cell lung cancer. *Ann Palliat Med* 2013;2:178-88.
 24. Knisely J, Sahgal A, Lo S, et al. Stereotactic radiosurgery/stereotactic body radiation therapy—reflection on the last decade's achievements and future directions. *Ann Palliat Med* 2016;5:139-44.
 25. Purkayastha A, Sharma N. Extremely rare presentation of soft tissue metastasis from carcinoma breast as a massive swelling of upper extremity. *Ann Palliat Med* 2016;5:145-8.
 26. Ganesh V, Probyn L, Vuong S, et al. A case report of bone metastases from appendiceal adenocarcinoma and a review of literature. *Ann Palliat Med* 2016;5:149-52.

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