

## “Death Panels” for Metastatic Lung Cancer Improve and Extend Life

Temel J, Greer J, Muzikansky A, et al. Early palliative care for patients with metastatic non-small cell lung cancer. *N Engl J Med* 2010;363:733–42.

### Study Overview

**Objective.** To examine the effect of early palliative care in patients with metastatic non-small cell lung cancer.

**Design.** Randomized controlled trial.

**Setting and participants.** 151 patients diagnosed with metastatic non-small cell lung cancer from 2006 to 2009 and seen in the outpatient thoracic oncology clinic at Massachusetts General Hospital. Subjects were offered enrollment if they were diagnosed within 8 weeks of evaluation for the study, if they could read and respond to questions in English, and if they had an Eastern Cooperative Oncology Group (ECOG) performance status of 0 (asymptomatic), 1 (symptomatic but fully ambulatory), or 2 (in bed < 50% of the day). Exclusions included patients that were already receiving palliative care at the time of evaluation for enrollment.

**Intervention.** Subjects were assigned to either early palliative care with standard oncologic treatment or standard oncologic care alone. Subjects in the early palliative care arm met with a palliative care team, including physicians and advanced practice nurses, within 3 weeks of enrollment and were scheduled to meet with them at least monthly thereafter.

**Main outcome measures.** Change in quality of life at 12 weeks measured using the Trial Outcome Index (TOI)

which is a compilation of (1) the Functional Assessment of Cancer Therapy-Lung (FACT-L) physical and functional quality of life scales and (2) the Lung Cancer Subscale (LCS), which is a 7-question subscale of the FACT-L that assesses symptoms directly related to lung cancer. Secondary endpoints included quality of life at 12 weeks, measured using the TOI, FACT-L, and LCS instruments; depressive or anxiety symptoms at 12 weeks; use of aggressive care at the end of life, defined as chemotherapy within 14 days of death, no hospice, or referral to hospice 3 days or fewer before death; and life expectancy.

**Main results.** No significant differences were noted between study arms for baseline characteristics. The mean age of subjects was 65 years, and nearly 50% were women. Almost all patients were white. Approximately one-quarter of patients had brain metastases at the time of enrollment, and almost all patients in both arms received some type of chemotherapy (nearly 50% received a platinum-based combination chemotherapy). Subjects in the early palliative care arm had an average of 4 visits with the palliative care team (range, 0–8); 14% of the subjects in the control arm had an assessment with the palliative care team in the first 12 weeks after enrollment. 107 of the 151 patients received complete assessments at 12 weeks; 27 patients died before 12 weeks. Subjects in the early palliative care arm had a significantly improved change in the TOI scale from baseline to 12 weeks compared with the standard treatment arm (2.3-point increase in the

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scale score vs. a 2.3-point decrease<sup>†</sup> ( $P = 0.04$ ). These subjects also had overall improved quality of life at 12 weeks compared with the control group on the FACT-L and the TOI scales, but not for the LCS scale. Fewer subjects in the early palliative care arm had depressive symptoms (16% vs. 38%;  $P = 0.01$ ) at week 12, and they lived longer (11.6 vs. 8.9 months;  $P = 0.02$ ) even though they received less aggressive care at the end of life. More subjects in the palliative care arm had their end-of-life preferences documented in the chart.

**Conclusion.** Early palliative care modestly improved quality of life, decreased aggressive care use at the end of life, and improved life expectancy.

### Commentary

During the heated debate over health care reform during the last 2 years, no issue in medicine has received greater attention than palliative care. Critics of health care reform raised the specter of “death panels,” considered to be a veiled reference to palliative care and hospice, as an ominous development that would come to pass if health care reform became law. Proponents often cited palliative care as a sure-fire way to save money in health care and improve quality of care at the same time. In reality, neither claim had much supporting evidence. “Death panels” were of course a myth, but also, limited evidence has been available to bolster the cost and quality of life arguments in favor of palliative care. A systematic review of 22 randomized controlled trials of palliative care found limited evidence to support the use of these services for either improving quality of life or decreasing health care utilization [1]. However, most of the studies in this review lacked the power to find significant quality of life differences between intervention and control groups, and all studies had methodologic limitations.

A few studies have shown promising results. Among 100 patients who were receiving radiation therapy for advanced cancer at the Mayo Clinic in Rochester, Minnesota, Rummans et al found that a multidisciplinary palliative care intervention focused on quality of life domains led to stable quality of life over 4 weeks for subjects in the intervention arm compared with a decline in quality of life in the control group [2]. Another study of 322 advanced cancer patients treated in a cancer center in rural New Hampshire and a VA hospital in Vermont found improved quality of life with a randomized, advanced practice nurse–led palliative care intervention but no change in health care utilization or survival [3]. One particularly promising study used Medicare claims data for 4000 Medicare beneficiaries who were diagnosed with congestive heart failure or pancreatic, lung, colon, breast, or prostate cancer within 3 years of death. While only an observational study, Conner et al found that

patients treated with hospice lived on average 29 days longer than those not treated with hospice [4].

This study by Temel and colleagues could be a game-changer. The effects on quality of life from a randomized early palliative care intervention for patients with metastatic non–small cell lung cancer were significant but modest. Of the 3 quality of life scales analyzed, the early palliative care group had higher scores on 2 of the scales at week 12. When examined as the change in quality of life from baseline to 12 weeks, only 1 of the 3 scales (the TOI scale, which was the primary endpoint) showed a significantly improved score change for early palliative care compared with the standard care group. More significant was the difference in depressive symptoms at 12 weeks, with more than double the number of subjects with these symptoms in the standard care versus the early palliative care group. The most remarkable finding, however, was the coupling of these modest quality of life benefits with a 3-month improvement in life expectancy and less aggressive medical care at the very end of life. If early palliative care were a new chemotherapeutic agent, an increase of 3 months of life expectancy would be lauded as proof that the high cost of such a medication is justified.

An added bonus of this study may be to dispel myths about palliative care. Subjects receiving early palliative care had the extensive participation of palliative care providers, starting within 3 weeks after enrollment, yet all of these patients received some chemotherapy. The chemotherapy and other aggressive measures simply were utilized more appropriately, with only 33% of subjects receiving aggressive care (late or no hospice referral or chemotherapy within 14 days of death) at the end of life compared with 54% of those in the standard care group.

Several limitations of the study were evident. First, the institution used for this study was a tertiary care referral center with excellent palliative care services. Many patients across the country may not have access to such services, thereby limiting the generalizability of this study. Second, approximately one-third of all subjects randomized did not have an assessment at 12 weeks and thus were excluded from the analysis. While the attrition decreases the power of the study, it was to be expected in a study of patients with metastatic lung cancer. Approximately half of the subjects who failed to have assessments at 12 weeks died before that assessment. Third, the study obviously could not be blinded, and subjects in the early palliative care arm received more overall attention from health care providers compared with the standard care arm (no specific information about number of visits to any provider is reported). The authors themselves list this as a limitation and recommend that future studies could incorporate frequent contact with nonpalliative care providers in the standard care arm to counter this limitation. Fourth, the overall effect from the intervention may have been diluted

because 14% of subjects in the standard care arm received a palliative care consultation in the first 12 weeks.

This study filled a vacuum in the medical literature and provides important evidence from a well-conducted randomized trial. The results should reassure both providers and patients that palliative care may provide comfort to patients without hastening death. Whether it loses the moniker of “death panel” remains to be seen.

### **Applications for Clinical Practice**

Early palliative care appears to improve quality of life and increase life expectancy for patients with metastatic non-small cell lung cancer. Primary care physicians and oncologists should routinely offer these services early after diagnosis. Additional studies should seek to replicate these findings in varied populations and for varied conditions.

—Review by Jason P. Block, MD, MPH

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