Patients of All Ages With Advanced Non-Small Cell Lung Cancer Are Not Receiving Chemotherapy

Recent studies have revealed that few elderly patients receive chemotherapy for advanced non-small cell lung cancer (NSCLC), even though it has been shown that the majority of patients will benefit from systemic treatment. The authors of the current study hypothesized that this may be occurring in the general population of patients with NSCLC, not just the elderly. To investigate, researchers conducted a large-scale, retrospective, population-based study of patients diagnosed with stage IV NSCLC, examining practice patterns in relation to systemic treatment and changes in chemotherapy administration over time, as well as associations with survival (Cancer [published online ahead of print April 17, 2015]. doi: 10.1002/cncr.29386).

The researchers identified all patients diagnosed with metastatic NSCLC in the province of Ontario, Canada between 2005 and 2009 through the Ontario Cancer Registry. Information regarding systemic treatment and RT was obtained from the Cancer Care Ontario Activity Level Reporting and New Drug Funding Program databases and linked to the registry data. Furthermore, each record was reviewed. The administration of oral agents such as tyrosine kinase inhibitors was not systematically recorded and therefore was not included in data collection. Data regarding performance status and comorbidities were also not available.

Researchers identified 8113 patients with a median age of 68 years with an even sex distribution. The median time to consultation with an oncologist was 30 days from the time of diagnosis, and 70% of patients had at least 1 visit with a medical oncologist. Most patients (76%) did not receive any chemotherapy at all. “These results imply that significant barriers exist to advanced NSCLC patients accessing systemic chemotherapy,” says Adrian Sacher, MD, medical oncologist at Princess Margaret Hospital and University Health Network at the University of Toronto, and first author of the study. “Some of this may be explained by poor performance status and elderly patients that would not be candidates for chemotherapy. However, the magnitude of untreated patients suggests that other challenges may exist, including lack of effective screening, delayed diagnosis, and delays in obtaining a medical oncology consultation.”

Approximately 24% of patients with NSCLC received at least 1 line of therapy; 16% received first-line only and 8% received both first-line and second-line therapy. The percentage of patients receiving chemotherapy increased significantly from 19% in 2005 to 26% in 2009 (P<.0001). Treatment patterns were not different in academic versus community settings. Patients aged older than 70 years were significantly less likely to receive chemotherapy than younger patients, with a multivariate odds ratio of 0.3 (P<.0001). Patients with adenocarcinoma were significantly more likely to be treated than those with squamous cell carcinoma, with a multivariate odds ratio of 1.3 (P<.0001). First-line chemotherapy consisted of a platinum doublet in 89% of those treated, and second-line chemotherapy was usually either docetaxel or pemetrexed.

“Since the results reported are only from Ontario and were collected more than half a decade ago, their relevance today to other Canadian provinces or health care systems is uncertain,” says Mark G. Kris, MD, chair of thoracic oncology at Memorial Sloan Kettering Cancer Center in New York City.

The median survival of patients who were not treated with chemotherapy was 3.3 months. The median survival of patients receiving first-line chemotherapy only and those receiving both first-line and second-line chemotherapy was 8.2 months (95% confidence interval, 7.7-8.6 months) and 16.2 months (95% confidence interval, 15.1-17.0 months), respectively. Comparable survival benefits from chemotherapy were observed in the cohort of patients aged 70 years and older versus those aged younger than 70 years. To explore whether better supportive care over time accounted for any survival advantage, investigators examined the median survival of untreated patients by year of diagnosis. No significant differences were observed, with a median survival of 3.3 months noted for 2005 and 3.2 months for 2009.
for those not receiving chemotherapy. The average time between diagnosis and consultation with an oncologist in this study was 30 days.

“Because of these concerning findings, a greater emphasis on ensuring that all patients with newly diagnosed advanced NSCLC receive timely initial diagnosis and consultation with a trained oncologist is essential,” says Dr. Sacher. “Minimizing these delays will reduce the likelihood that patients will deteriorate clinically and will no longer be systemic therapy candidates by the time they are seen by a medical oncologist.”

**Implications**

The authors pointed out several limitations of their study. The databases they used did not include certain clinical characteristics such as comorbidities and performance status and therefore the effect of these factors on survival and treatment could not be assessed. Furthermore, no information regarding oral anticancer agents or systemic therapy given outside the public health care system could be evaluated.

Despite the limitations of registry database studies, the finding that the majority of patients with stage IV NSCLC received no chemotherapy was disconcerting to the authors. Lack of treatment was more prominent in older patients, with 87% reported as untreated, but even those individuals aged younger than 70 years received chemotherapy only 33% of the time. The authors call for a better understanding of the barriers to treatment, such as therapeutic nihilism on both the patient and physician side, and better education regarding the benefits of treatment as well as a timely consultation with a medical oncologist.

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