

Half of Older Adults With Metastatic Lung Cancer Receive No Systemic Treatment

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Metastatic non-small cell lung cancer (NSCLC) carries a grim prognosis, particularly for older adults where treatment decisions become complex, balancing efficacy with tolerability. Despite advances in targeted therapies and immunotherapy, a substantial number of these patients receive no systemic treatment at all.¹ This care gap raises serious questions about equitable access and guideline adherence in a vulnerable population.

KEY TAKEAWAYS

- **The Pivot:** A large proportion of older adults with metastatic NSCLC are not receiving any systemic treatment, despite available options.
- **The Data:** Approximately 50% of patients aged 70 and older with metastatic NSCLC receive no chemotherapy, targeted therapy, or immunotherapy.
- **The Action:** Clinicians should proactively assess functional status, comorbidities, and patient preferences to ensure all eligible older adults are offered appropriate systemic treatment.

Metastatic non-small cell lung cancer (NSCLC) remains a leading cause of cancer-related mortality globally, with incidence rising sharply with age. The median age at diagnosis for lung cancer is approximately 70 years, meaning a substantial portion of patients fall into the 'older adult' category. For these individuals, the disease burden is compounded by age-related physiological changes, increased comorbidities, and often, polypharmacy, all of which complicate treatment decisions and outcomes.¹

Historically, older patients with advanced NSCLC faced significant barriers to receiving aggressive systemic therapy. Concerns about toxicity, reduced functional reserve, and perceived limited life expectancy often led to undertreatment, even when evidence supported benefit. This phenomenon is not unique to lung cancer, but the aggressive nature of metastatic NSCLC makes the implications particularly stark.²

A retrospective analysis of real-world data from several large cancer registries across Europe and North America consistently shows that nearly half of older adults, defined as those aged 70 years or older, diagnosed with metastatic NSCLC receive no systemic treatment whatsoever. This includes chemotherapy, targeted therapies for specific molecular alterations, or immunotherapy. The data, compiled from diverse healthcare systems, points to a systemic issue rather than an isolated anomaly in a single institution or region.³

The numbers behind the care gap

The precise proportion of untreated older patients varies slightly by region and specific cohort, but generally hovers around 45% to 55%. For instance, one large European registry reported that 48% of patients aged 75 and older with

stage IV NSCLC did not receive any anti-cancer systemic therapy within six months of diagnosis. Another analysis from a North American database showed a similar figure of 51% for patients aged 70 and above. These numbers are particularly striking given the expansion of less toxic and more effective treatment options over the last decade.⁴

This lack of treatment is not necessarily due to a lack of available options. The advent of targeted therapies for oncogenic drivers like EGFR mutations, ALK rearrangements, and ROS1 fusions has revolutionised care for a subset of NSCLC patients, offering superior response rates and progression-free survival compared to chemotherapy, often with a more favourable toxicity profile. Immunotherapy, particularly PD-1/PD-L1 inhibitors, has also transformed the treatment landscape for many patients, including those with high PD-L1 expression, regardless of age.⁵

But the data indicates that these advances are not consistently reaching older patients. For those who do receive systemic treatment, the choice of therapy often skews towards less intensive regimens. For example, older patients are less likely to receive combination chemotherapy or immunotherapy, even when clinically indicated. They are also less likely to undergo molecular testing for actionable mutations, which is a critical prerequisite for targeted therapy. This suggests a cascade of undertreatment, starting with diagnostic workup and extending to therapeutic decisions.⁶

The reasons for this significant treatment gap are multifactorial. Patient-related factors include poor performance status, significant comorbidities (e.g., cardiovascular disease, chronic kidney disease, diabetes), and patient preference to avoid aggressive treatment. Clinician-related factors involve therapeutic nihilism, a lack of familiarity with geriatric oncology guidelines, and an overestimation of treatment toxicities in older adults. Systemic factors, such as access to specialist care, multidisciplinary teams, and comprehensive geriatric assessment (CGA), also play a role.⁷

Comprehensive geriatric assessment is a multidisciplinary evaluation that identifies medical, psychosocial, and functional problems in older cancer patients. It is a tool designed to guide treatment decisions and predict toxicity. Studies have consistently shown that CGA can identify vulnerabilities not captured by standard performance status scores (like ECOG PS) and can help tailor treatment plans. But, CGA is not routinely implemented in many oncology practices, contributing to suboptimal treatment selection for older adults.⁸

The absence of systemic treatment directly correlates with poorer outcomes. Patients who receive no systemic therapy have significantly shorter median overall survival compared to those who receive even single-agent chemotherapy or targeted therapy. While direct comparisons are confounded by selection bias (patients who receive no treatment are often sicker to begin with), the magnitude of the survival difference is substantial. This suggests that even palliative systemic treatment can offer meaningful clinical benefit.⁹

The open-label nature of many real-world data analyses is an obvious caveat. These studies are observational and cannot establish causality. Patients who receive no treatment are inherently a sicker cohort, making direct comparisons with treated patients challenging. But, the consistent finding across diverse datasets and the sheer proportion of untreated patients suggest that factors beyond just baseline health status are at play. The lack of detailed information on patient preferences and shared decision-making processes in these registry analyses also represents a gap.¹⁰

Still, the data compels a re-evaluation of current practice. The assumption that older adults cannot tolerate systemic therapy or will not benefit from it is often not supported by evidence from clinical trials that have included older patients. Many trials now include specific analyses for older subgroups, and some have shown comparable efficacy and acceptable toxicity profiles in fit older adults. The challenge lies in identifying these 'fit' older adults and ensuring they receive appropriate care.¹¹

The next step requires a concerted effort to integrate geriatric assessment into routine oncology practice. This would allow for a more nuanced understanding of an older patient's physiological age versus chronological age, guiding more informed treatment decisions. It also necessitates education for oncologists on the benefits and risks of modern systemic therapies in older populations, moving beyond age as a sole determinant of treatment eligibility.¹²

CLINICAL IMPLICATIONS

The fact that half of older adults with metastatic lung cancer receive no systemic treatment is a stark indictment of current practice. It suggests a systemic failure to apply evidence-based care to a vulnerable population, often based on chronological age rather than physiological fitness. This is not just a missed opportunity for improved survival, but a fundamental ethical concern.

Clinicians must move beyond simplistic age cut-offs. Comprehensive geriatric assessment, though time-consuming, is essential to identify those older patients who can tolerate and benefit from modern therapies. Ignoring this tool means some patients are denied potentially life-extending or symptom-alleviating treatments, while others might be overtreated.

The pharmaceutical industry also bears some responsibility. While trials increasingly include older adults, the data often remains insufficient to guide specific dosing or regimen modifications for the frailest patients. More dedicated research into geriatric oncology, including trials specifically designed for older, multimorbid populations, is desperately needed to fill these evidence gaps.

Ultimately, the goal is not to treat every older patient aggressively, but to ensure every patient receives an individualised, informed treatment plan. The current data indicates we are falling short, and that many older adults are simply being left behind in the rapid advancement of cancer care.

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