Factors associated with not receiving first-line immune checkpoint inhibitor (ICI) treatment among patients with advanced NSCLC and high programmed cell death-ligand 1 (PD-L1) expression: An evaluation by age

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Background

ICIs are recommended for first-line treatment for patients with advanced non-small cell lung cancer (NSCLC) with high PD-L1 expression (≥50%) by international guidelines, but disparities in ICI treatment among patients with advanced NSCLC persist. In 2016, the US Food and Drug Administration approved the first ICI as monotherapy for recurrent NSCLC with PD-L1 expression ≥50%. Limited data have been reported on treatment patterns of ICI among advanced NSCLC patients. Our objective was to determine the association between age and first-line ICI treatment among patients with advanced NSCLC and high PD-L1 expression ≥50%.

Methods

Study type

Retrospective cohort study.

Data source

The Flatiron database primarily reflects real-world clinical practices at community oncology practices in the United States. All patients in the database were treated at community oncology practices.

Inclusion/exclusion criteria

All patients who were treated in the Flatiron database (Stage III or IV NSCLC) and had compelling evidence of lung cancer diagnosis (Electronic Medical Record or pathologic diagnosis) with ≥50% PD-L1 expression were included in the analysis. Cytotoxic chemotherapy, targeted therapy, or ICI treatment was received within 28 days of diagnosis.

Outcome

Not receiving ICI as first-line treatment for NSCLC.

Results

A total of 57% of patients with ICI therapy were included in the analysis, of whom age ≥75 was 30% and age <75 was 20%. The impact of age on first-line ICI therapy was not significant (odds ratio 0.98, 95% CI 0.75–1.28).

Limitations

This descriptive study was based on a large EMR-derived database of patients with advanced NSCLC. Because patients were not randomized to treatment after diagnosis, there may be unmeasured confounders. Limited data on sociodemographic characteristics and smoking status were available. A lack of full content from patients’ electronic medical records may limit the accuracy of clinical information extracted. Treatments were classified as either ICI or non-ICI treatment.

Conclusions

Approximately 20% of patients with ICI and high PD-L1 expression did not receive an ICI as first-line treatment. In both age groups, non-ICI was generally driven by clinical rather than biological characteristics. Understanding how the clinical factors associated with non-ICI treatment may shape prescribing practices is important.

Key takeaway

Regrettably, age was generally driven by clinical rather than biological characteristics. Understanding how the clinical factors associated with non-ICI treatment may shape prescribing practices is important.

References

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