

A Scoping Review to Evaluate Different Treatments Used in Advanced Non-small-cell Lung Cancer in India

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Summary

Background: Non-small-cell lung cancer (NSCLC) accounts for nearly 85% of all lung cancers and represents a major global health burden. In India, treatment strategies must be optimized through a customized approach that considers genetic and environmental differences.

Objectives: To provide evidence from Indian RCTs with valuable insights into effective and cost-effective treatment options.

Materials and Methods: This review, conducted according to the Cochrane Handbook guidelines, identified 179,960 studies across databases—PubMed (26,383), Google Scholar (17,100), ScienceDirect/Embase (136,458), and the Clinical Trials Registry of India (19).

Results: After screening, 11 primary studies involving 3,470 patients were included. Treatment regimens studied included platinum-based chemotherapy (carboplatin and cisplatin), taxanes (paclitaxel and docetaxel), epidermal growth factor receptor tyrosine kinase inhibitors (EGFR TKIs), and combination therapies. Carboplatin and cisplatin were the most frequently used agents; gefitinib plus cisplatin showed better efficacy in EGFR-mutated patients; pemetrexed plus carboplatin was more tolerable than paclitaxel plus carboplatin; and chemoimmunotherapy demonstrated superior survival outcomes compared to chemotherapy alone. Targeted therapies such as EGFR TKIs were equally effective with fewer toxicities.

Conclusion: In conclusion, platinum-based chemotherapy remains the mainstay of NSCLC treatment, but patient tolerance, mutational status, and toxicity profiles must be carefully considered. Chemoimmunotherapy and EGFR TKIs are promising alternatives with improved results, while personalized treatment approaches and novel drug combinations should be the focus of future research.

Key words: Chemoimmunotherapy, chemotherapy, epidermal growth factor receptor tyrosine kinase inhibitors, India, lung cancer treatment, non-small-cell lung cancer, randomized controlled trials, targeted therapy