

INTRODUCTION

The introduction of neoadjuvant chemoimmunotherapy has led to significant improvements in outcomes for patients with resectable non-small cell lung cancer (NSCLC), resulting in higher rates of pathological response and improved survival (1). In light of these considerations, we designed our real-world analysis to further investigate these outcomes.

METHODS

This single-center, retrospective study was conducted at the Department of Pulmonary Diseases, University Hospital Centre Zagreb, and included patients with resectable NSCLC treated with neoadjuvant chemoimmunotherapy, focusing on pathological response and nodal downstaging.

DISCUSSION AND CONCLUSION

Pathological response and nodal downstaging are being established as clinically meaningful surrogates for long-term outcomes in patients with resectable NSCLC treated with neoadjuvant chemoimmunotherapy (2). In our real-world cohort, this approach resulted in high rates of both pathological response and nodal downstaging.

REFERENCES & ACKNOWLEDGEMENTS

1. Rossi G, Barcellini L, Tagliamento M, et al. Immunotherapy for resectable NSCLC: neoadjuvant/perioperative followed by surgery over surgery followed by adjuvant. Systematic review and meta-analysis with subgroup analyses. ESMO Open. 2025 Sep;10(9):105759. doi:10.1016/j.esmoop.2025.105759.
2. Deutsch JS, Cimino-Mathews A, Thompson E, et al. Association between pathologic response and survival after neoadjuvant therapy in lung cancer. Nat Med. 2024 Jan;30(1):218-228. doi:10.1038/s41591-023-02660-6.

RESULTS

From March 2023 to December 2025, 59 patients with resectable NSCLC completed two to four cycles of neoadjuvant chemoimmunotherapy before surgical evaluation. The median age was 66 years (range, 59-70), and 54% were male. The objective response rate was 68% per RECIST 1.1. Adequate staging, including positron-emission tomography (PET) scan and mediastinal assessment with endobronchial ultrasound, was performed in the majority of patients. Most patients were stage III (IIIA, 53%; IIIB, 24%). Adenocarcinoma was present in 64% (38/59), and squamous cell carcinoma in 29% (17/59). Nine patients (15%) did not proceed to surgery despite surgical evaluation. Reasons included patient choice (33%), disease progression (33%), and comorbidity-related inoperability (33%). Among operated patients, the median time to surgery was 9 weeks (range, 7-12). Pathological assessment of the primary tumor showed complete pathological response in 38% of patients and major pathological response in another 16%. A complete pathological response in both the primary tumor and lymph nodes was observed in 15 patients (30%). Among those with baseline lymph node involvement who underwent surgery, 58% experienced nodal downstaging after neoadjuvant chemoimmunotherapy, with 50% achieving complete nodal clearance (ypN0). Additionally, 38% of cN2 patients were downstaged to ypN0. Grade 3 toxicities occurred in 7% of patients (4/59).

Change in pN stage, N (%)

Persistent nodal disease (N1/N2 → N1/N2)	19 (38)
Complete nodal downstaging (N1/N2 → N0)	23 (46)
Remained node-negative (N0 → N0)	4 (8)
Nodal progression (N0 → N+)	4 (8)

Percentages are of all resected patients (N=50). Nodal downstaging rates cited in the Results text refer to the subgroup with baseline nodal involvement (N1/N2 at baseline, n=42).

Artificial Intelligence (AI) Use Disclaimer

No artificial intelligence (AI) tools were used in the development of this material.