



P1.205: Cytokeratin-Detected Mediastinal Lymph-Node Occult Micrometastases After Neoadjuvant Immunochemotherapy in Resectable NSCLC

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INTRODUCTION

Neoadjuvant immunochemotherapy improves pathologic response, but routine H&E may miss microscopic residual disease. We assessed the prevalence and prognostic relevance of cytokeratin-detected mediastinal lymph-node occult micrometastases (LN-OM).

METHODS

We retrospectively analyzed 261 patients with ypN0–1M0 NSCLC who underwent surgery after neoadjuvant immunochemotherapy. Cytokeratin AE1/AE3 IHC was performed on 2,182 H&E-negative mediastinal nodes; LN-OM (≤ 2 mm) was assessed for associations with OS and DFS using Kaplan–Meier and multivariable Cox analyses.

DISCUSSION & CONCLUSION

CK-detected LN-OM independently identified patients at higher risk of recurrence and death despite H&E-negative mediastinal nodes. LN-OM may enable further risk stratification of patients with resectable NSCLC after neoadjuvant chemoimmunotherapy, highlighting its potential clinical value for prognostic assessment. Prospective multicenter studies are warranted to standardize CK-IHC-based nodal assessment and validate the reproducibility, prognostic performance, and clinical utility of LN-OM.

RESULTS

LN-OM involved 42/2,182 nodes (1.9%) from 29/261 patients (11.1%) and was enriched in baseline cN2 disease (16.7% vs 4.9% in cN0–1; $P=0.010$). During median follow-up of 39.2 months for OS and 36.4 months for DFS, 37 deaths and 61 DFS events occurred. LN-OM independently predicted worse OS (adjusted HR 3.04, 95% CI 1.27–7.28; $P=0.013$) and DFS (adjusted HR 3.56, 95% CI 1.81–7.02; $P<0.001$). In routine-pathology pCR, LN-OM remained associated with shorter DFS (HR 10.39, 95% CI 2.48–43.48; $P=0.001$). Any recurrence was more frequent with LN-OM (44.8% vs 16.8%; $P=0.001$).

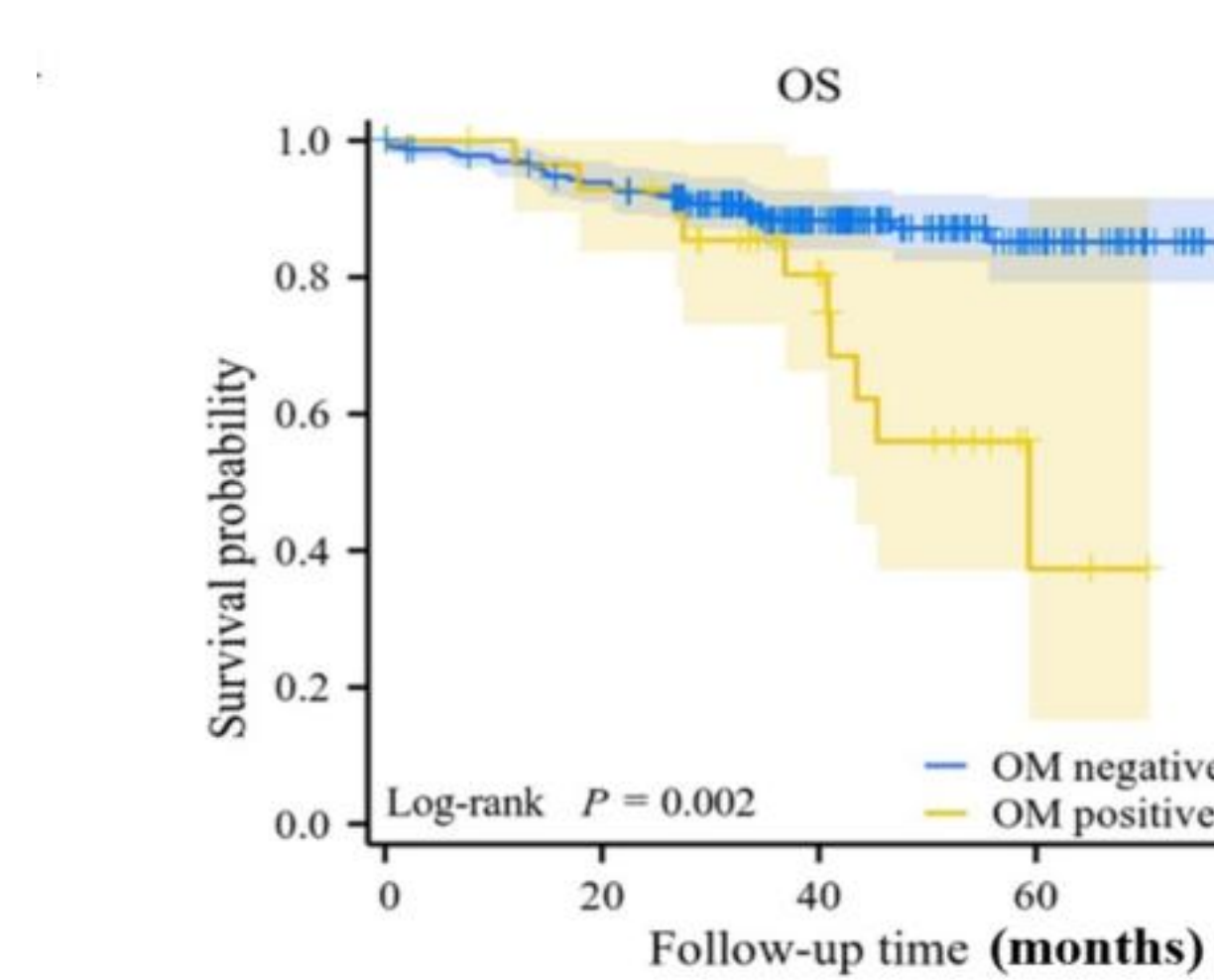


Fig. 2. Overall survival by mediastinal LN-OM status.

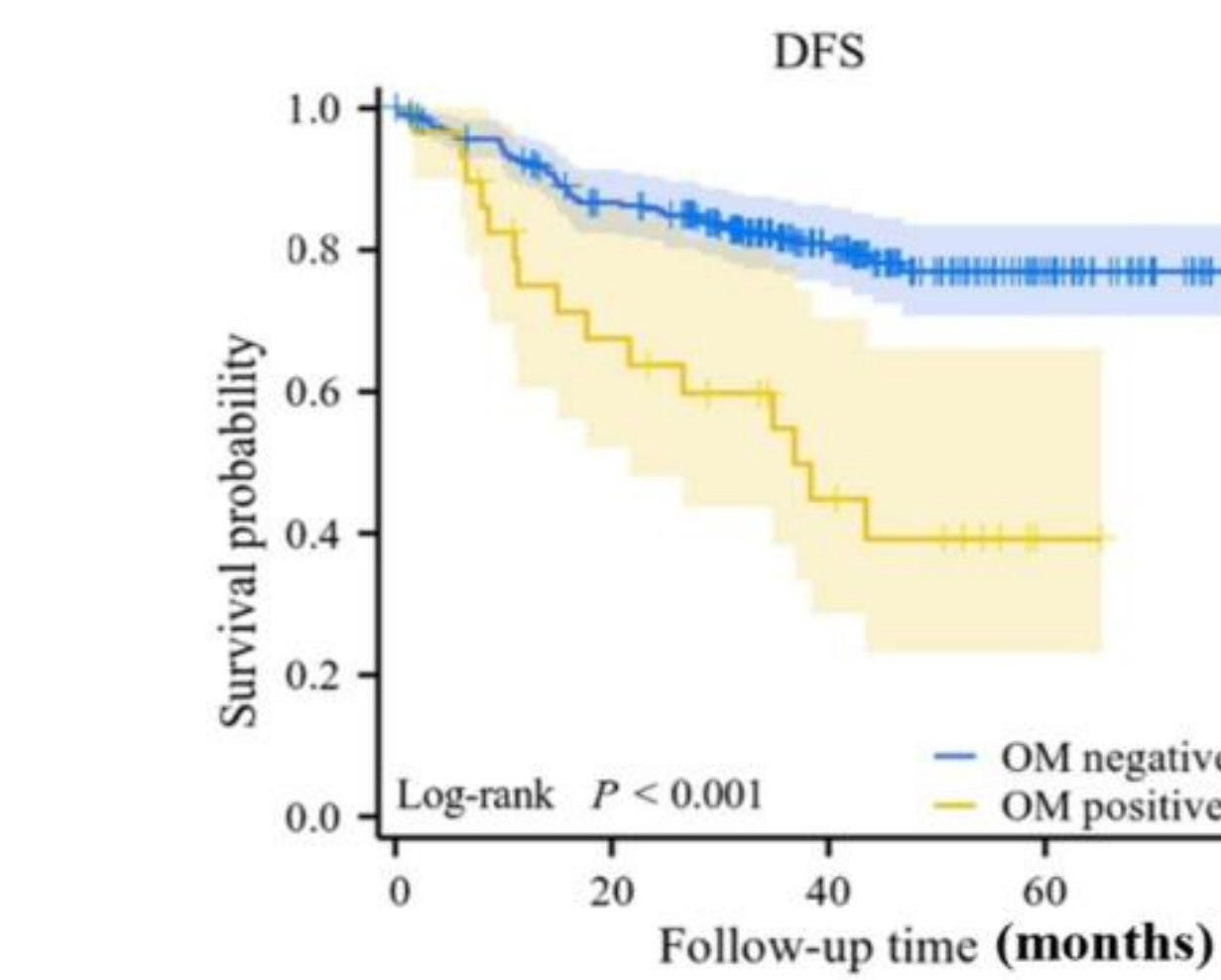


Fig. 3. Disease-free survival by mediastinal LN-OM status.

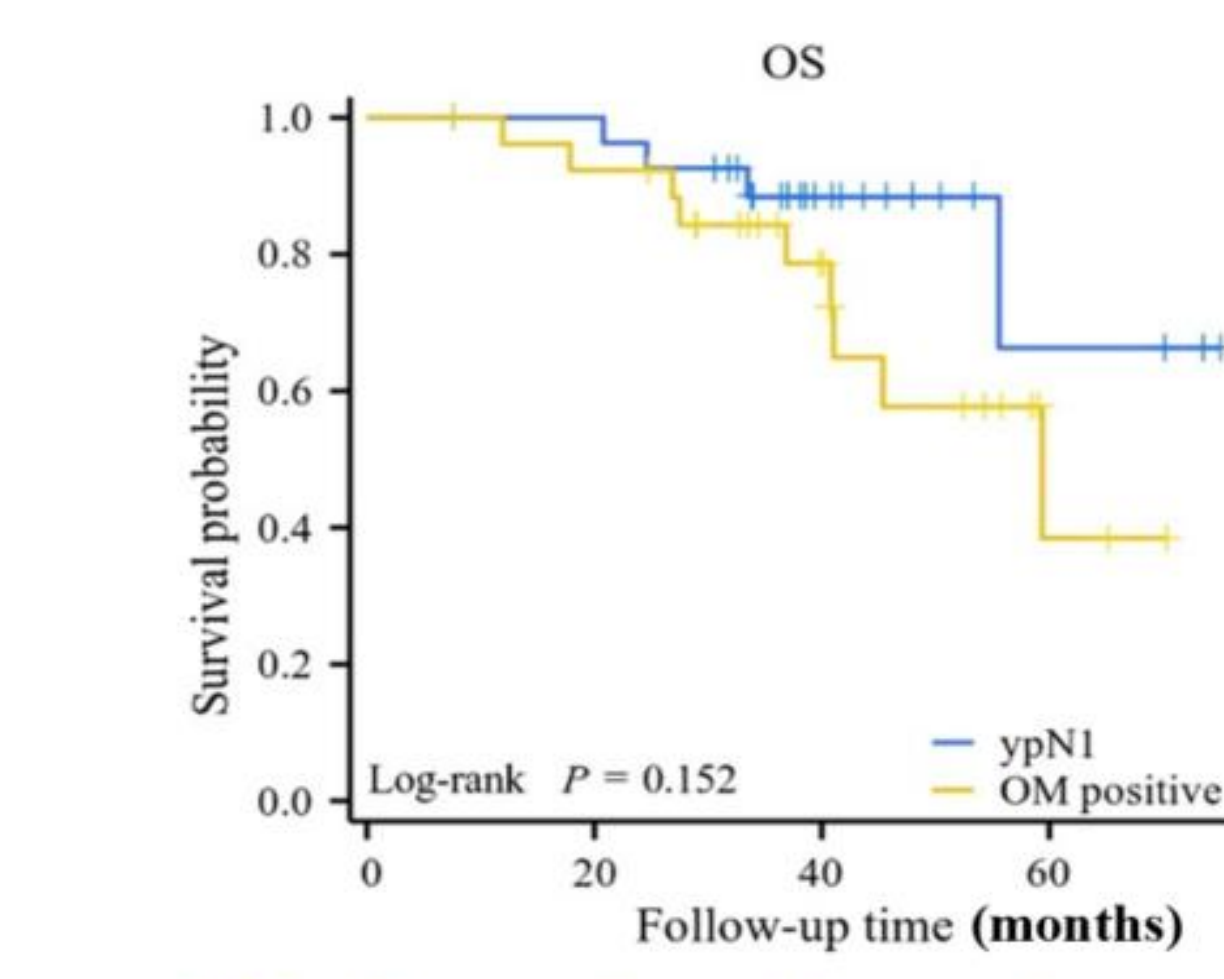


Fig. 4. Exploratory OS: ypN0/LN-OM-positive versus ypN1/LN-OM-negative.

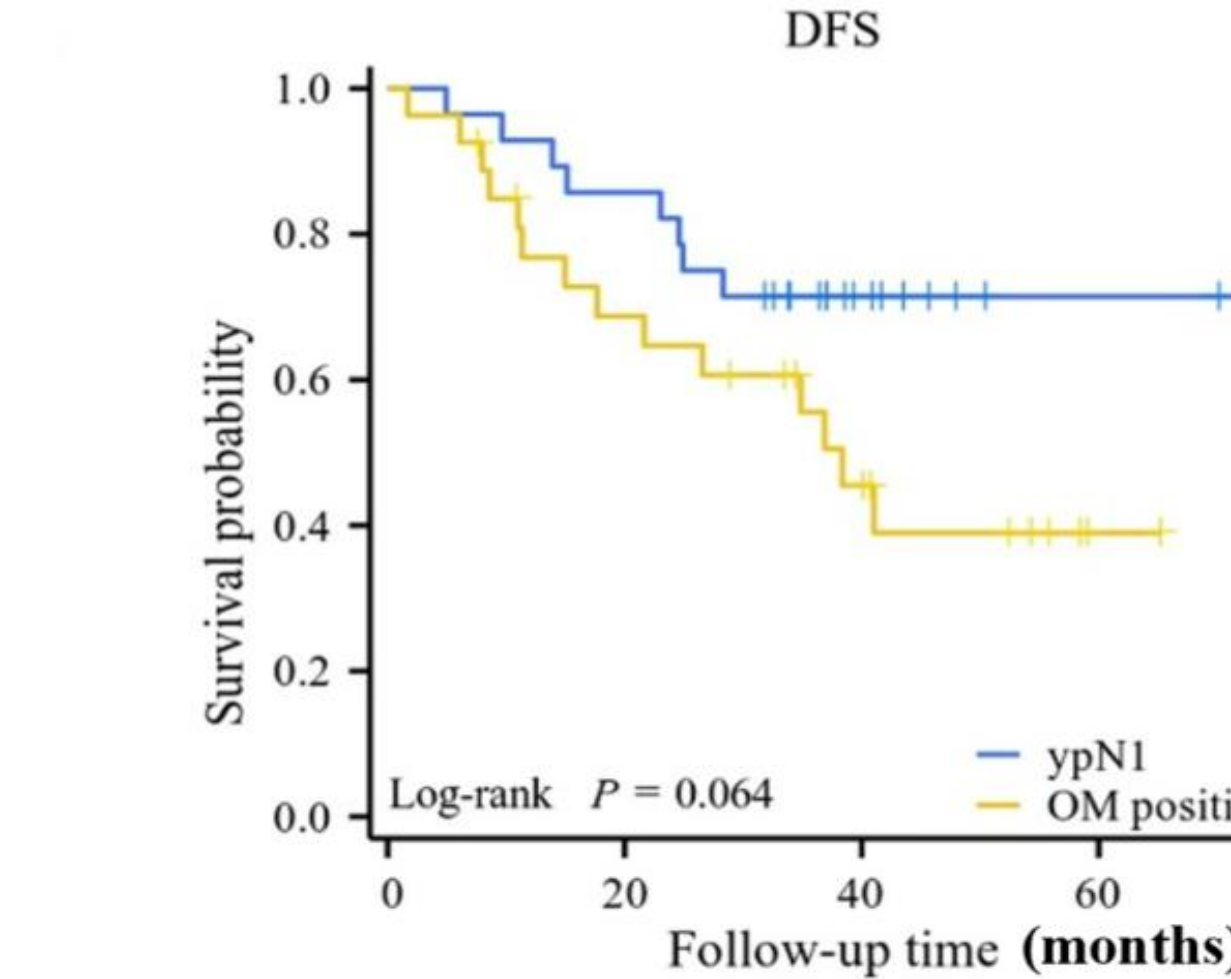


Fig. 5. Exploratory DFS: ypN0/LN-OM-positive versus ypN1/LN-OM-negative.

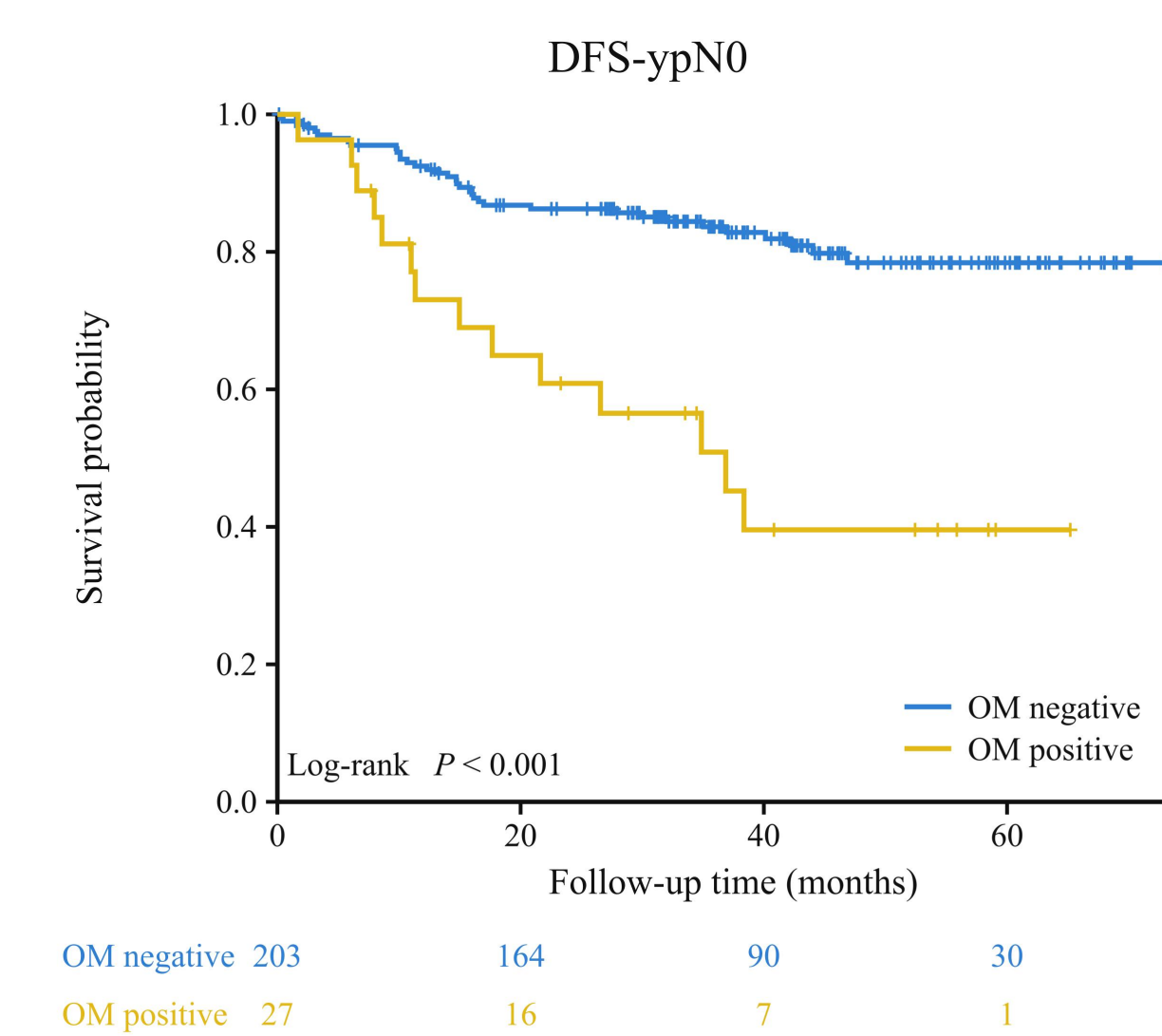


Fig.6.DFS by LN-OM status in the ypN0 subgroup.

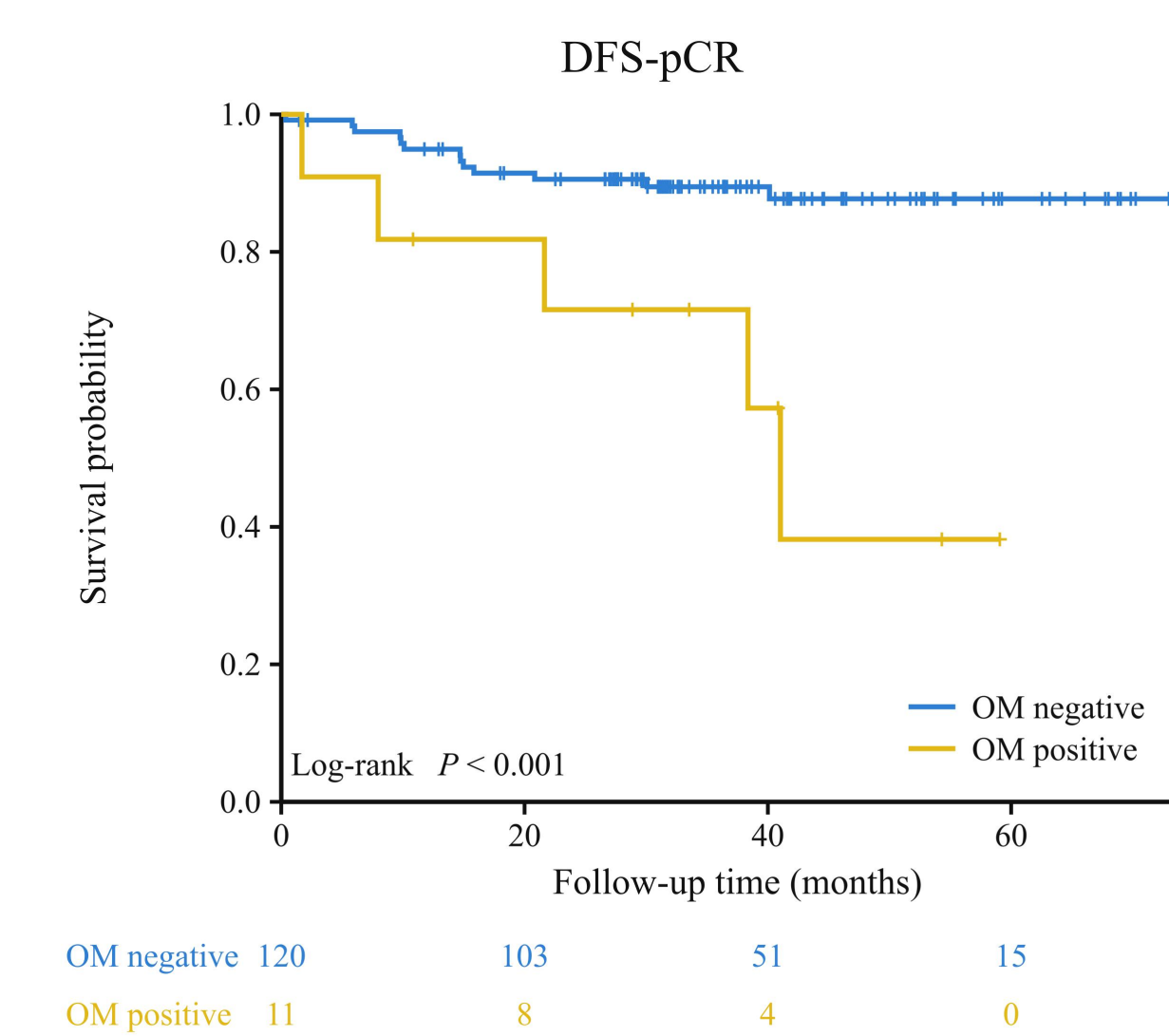


Fig.7.DFS by LN-OM status in the routine-pathology pCR subgroup.

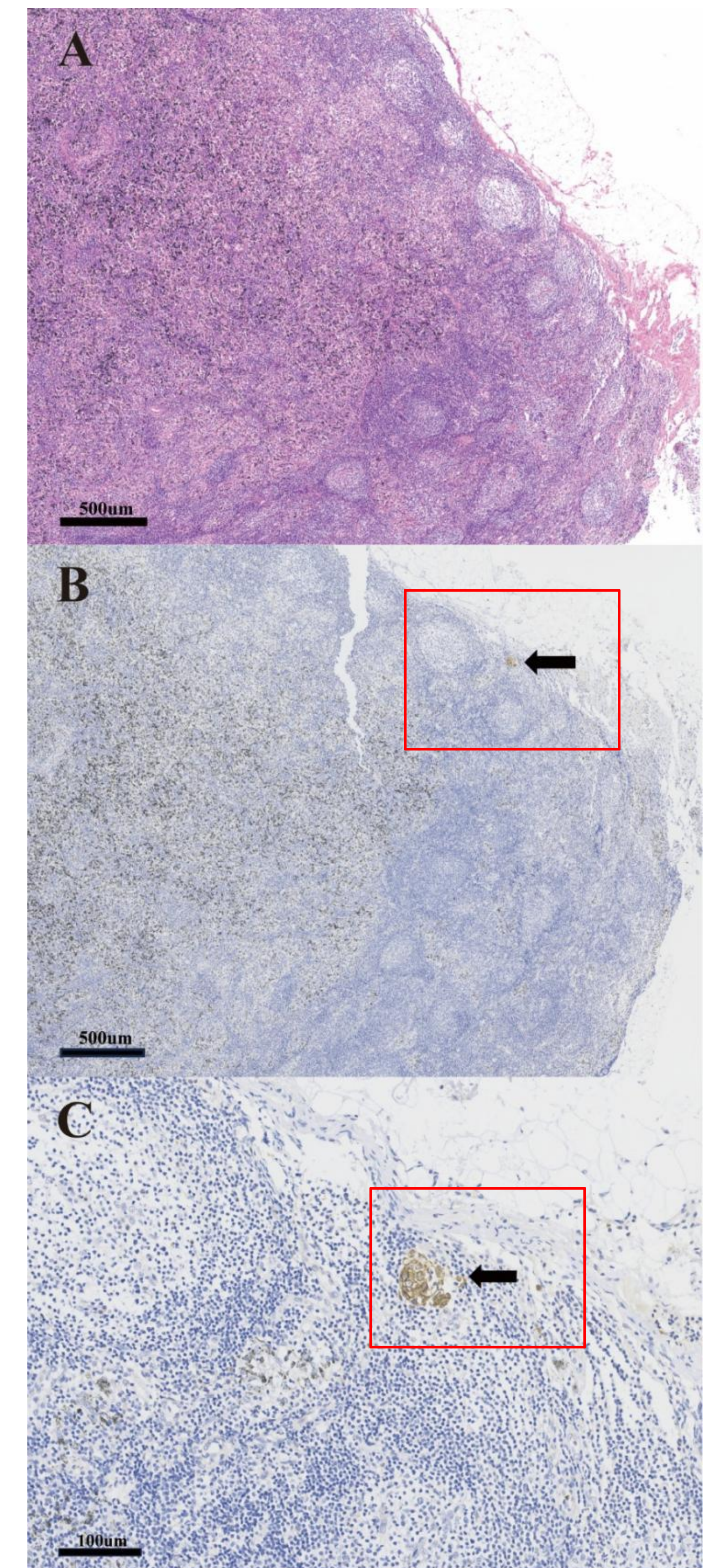


Fig. 8. Representative H&E-negative, CK-positive mediastinal LN-OM. A, H&E (x40); B, CK-IHC (x40); C, CK-IHC (x200). Arrows indicate occult tumor cells.

REFERENCES & ACKNOWLEDGEMENTS

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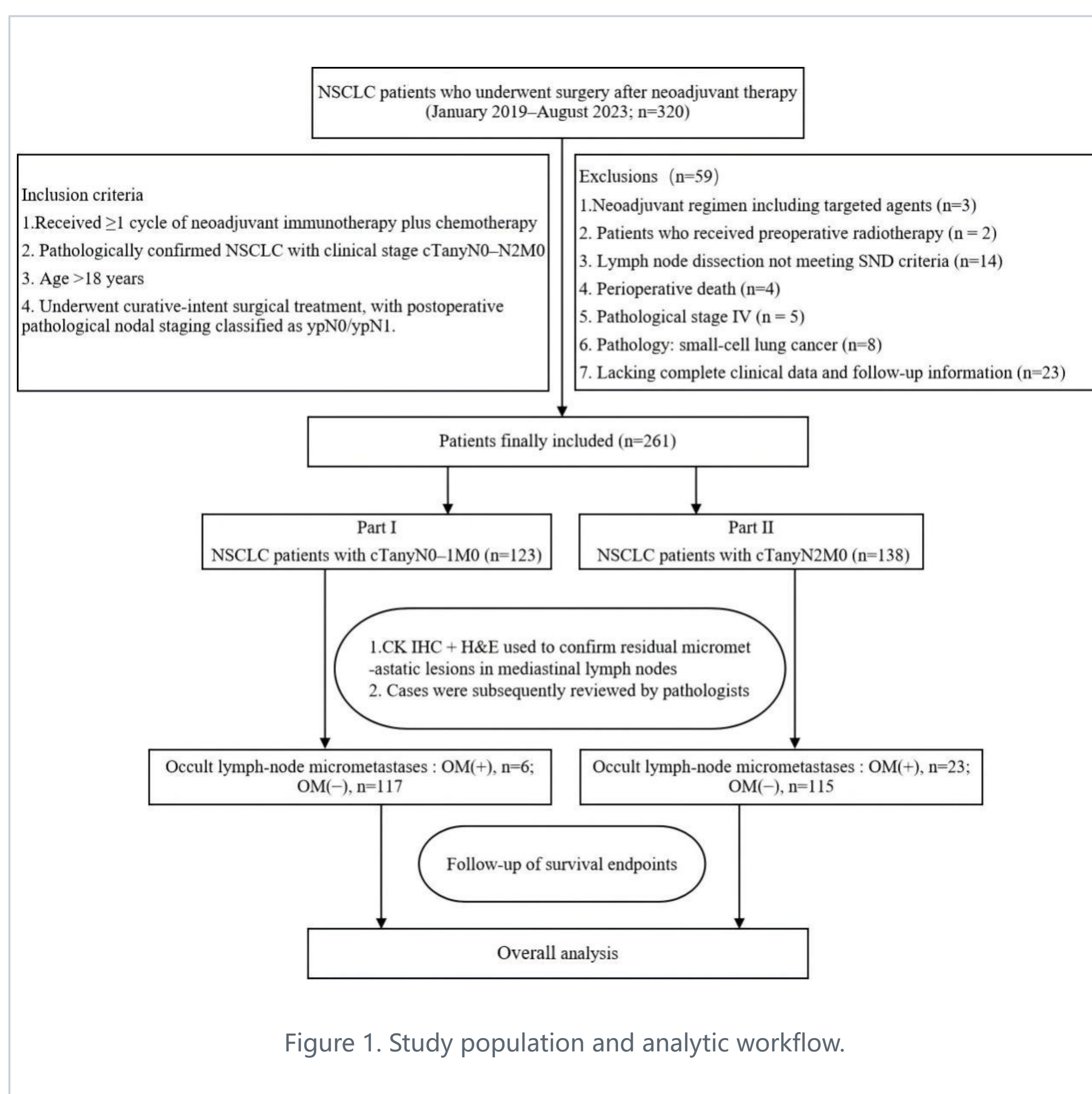


Figure 1. Study population and analytic workflow.