



P1.115: Preoperative Elevated Carcinoembryonic Antigen as a Risk Factor for Occult Lymph Node Metastasis in Clinical Stage I NSCLC

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INTRODUCTION

Accurate prediction of occult lymph node metastasis (OLM) in clinical stage I non-small cell lung cancer (NSCLC) is critical, as it directly influences surgical decision-making. Carcinoembryonic antigen (CEA) is a widely used tumor biomarker, but its role in predicting OLM in early-stage NSCLC remains controversial. This study aimed to evaluate the association between elevated preoperative CEA levels and the risk of OLM in clinical stage I NSCLC.

METHODS

PubMed, Embase, Web of Science and Cochrane Library databases were searched from inception to March 2026. The primary outcome was OLM (N1+N2), and secondary outcomes were occult N1 and N2 metastasis. Odds ratios (ORs) with 95% confidence intervals (CIs) were pooled using the inverse variance method. Subgroup analyses were performed based on TNM stage, tumor size, pathology, consolidation-to-tumor ratio (CTR), CEA cut-off value, and source of OR.

DISCUSSION AND CONCLUSION

- Elevated preoperative CEA is significantly associated with an increased risk of OLM in clinical stage I NSCLC, particularly in adenocarcinoma.
- Incorporating preoperative CEA into risk stratification could help identify patients at high risk for OLM, and inform surgical decision-making.

REFERENCES & ACKNOWLEDGEMENTS

Artificial Intelligence (AI) Use Disclaimer

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

Disclosure

The authors declare no conflict of interest related to this work.

RESULTS

- A total of 32 studies were included. Elevated CEA levels were significantly associated with increased risk of OLM (OR = 1.35, 95% CI: 1.23-1.48, P < 0.001).
- The association was stronger in the adenocarcinoma subgroup (OR=1.95, 95% CI: 1.57-2.41, p<0.001).
- Elevated CEA was also associated with both N1 (OR = 1.45, 95% CI: 1.13-1.86, P = 0.004) and N2 metastasis (OR = 1.64, 95% CI: 1.34-2.01, P < 0.001).

