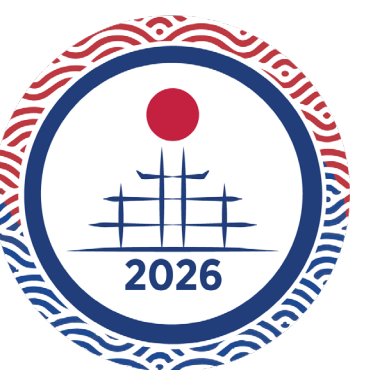




Segmentectomy versus Lobectomy for Centrally, ≤ 2 cm, Subsolid Non-Small Cell Lung Cancer: A Real-World Inverse Probability of Treatment Weighting Study

Yi Liu^{1†}, Zhenyu Yang^{1†}, Liang Xia^{1†}, Shuxiao Ma², Abuduwaili Yasheng³, Qiang Pu¹, Jiandong Mei¹, Lin Ma¹, Hu Liao¹, Yunke Zhu¹, Feng Lin¹, Lunxu Liu¹, Chengwu Liu, MD, PhD^{1*}

¹ Department of Thoracic Surgery and Institute of Thoracic Oncology, West China Hospital, Sichuan University, Chengdu, China; ² Department of Thoracic Surgery and Institute of Thoracic Oncology, Frontiers Science Center for Disease-related Molecular Network, West China Hospital, Sichuan University, Chengdu, Sichuan, China; ³ West China School of Medicine, Sichuan University, Chengdu, Sichuan, China



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INTRODUCTION

Segmentectomy evidence has been largely confined to peripheral tumors. Whether segmentectomy can be safely adopted as an alternative to lobectomy in patients with centrally located, ≤ 2 cm, subsolid NSCLC remains insufficiently established. We compared perioperative and long-term outcomes using inverse probability of treatment weighting (IPTW).

METHODS

We retrospectively included eligible patients who underwent lobectomy or segmentectomy between January 2009 and December 2018. Inverse probability of treatment weighting (IPTW) based on propensity scores was used to balance baseline characteristics. Perioperative outcomes and long-term oncologic outcomes, including overall survival (OS), lung cancer-specific survival (LCSS), and recurrence-free survival (RFS), were assessed. Multivariable Cox regression and prespecified subgroup analyses were performed.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

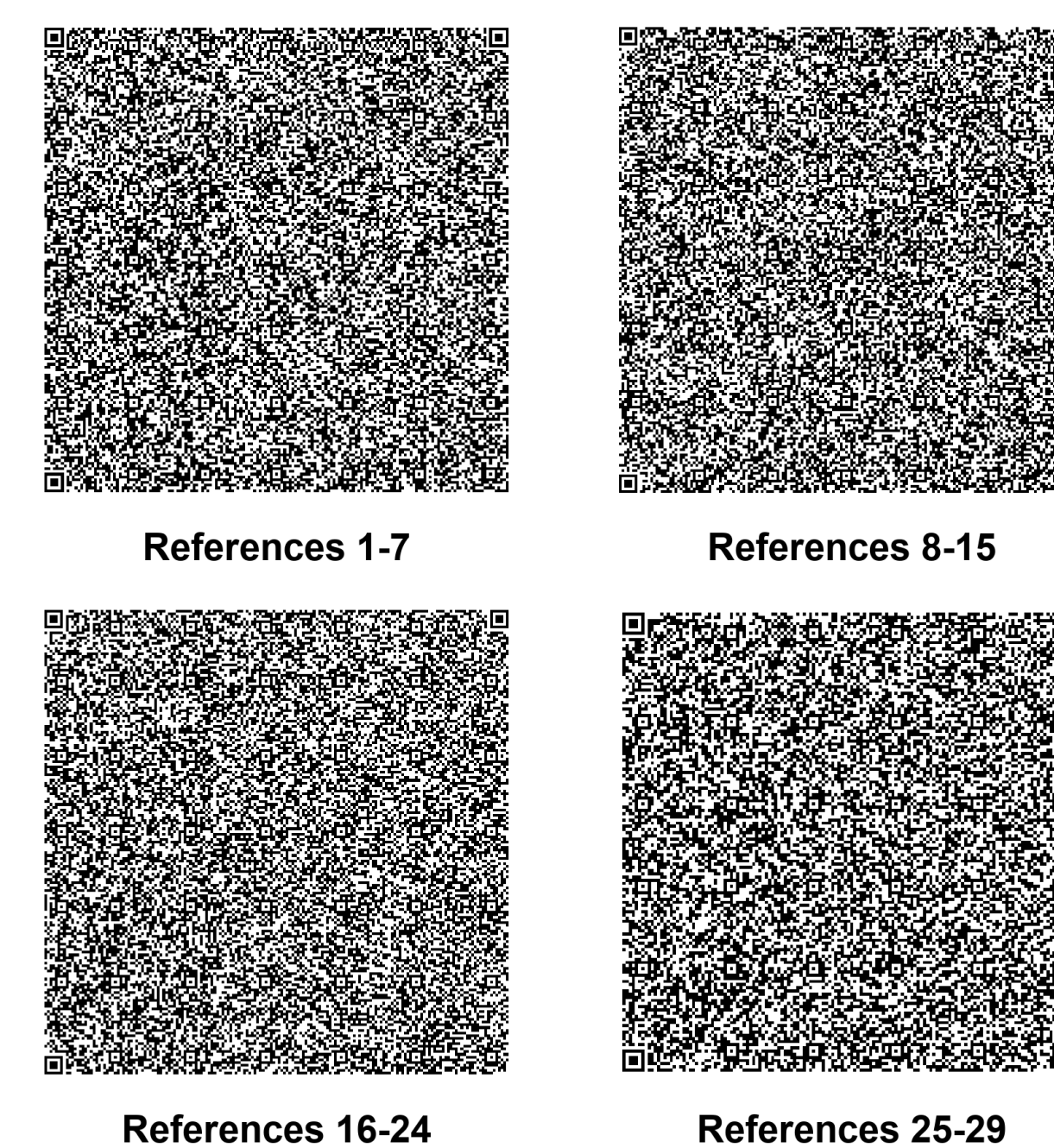
Segmentectomy provided perioperative and long-term oncologic outcomes comparable to lobectomy for centrally located ≤ 2 cm subsolid NSCLC, supporting sublobar resection in appropriately selected patients.

Future Direction for Research

Caution is warranted for tumors with higher consolidation-to-tumor ratios or inner one-third location; prospective randomized trials are needed to validate these findings.

REFERENCES & ACKNOWLEDGEMENTS

References



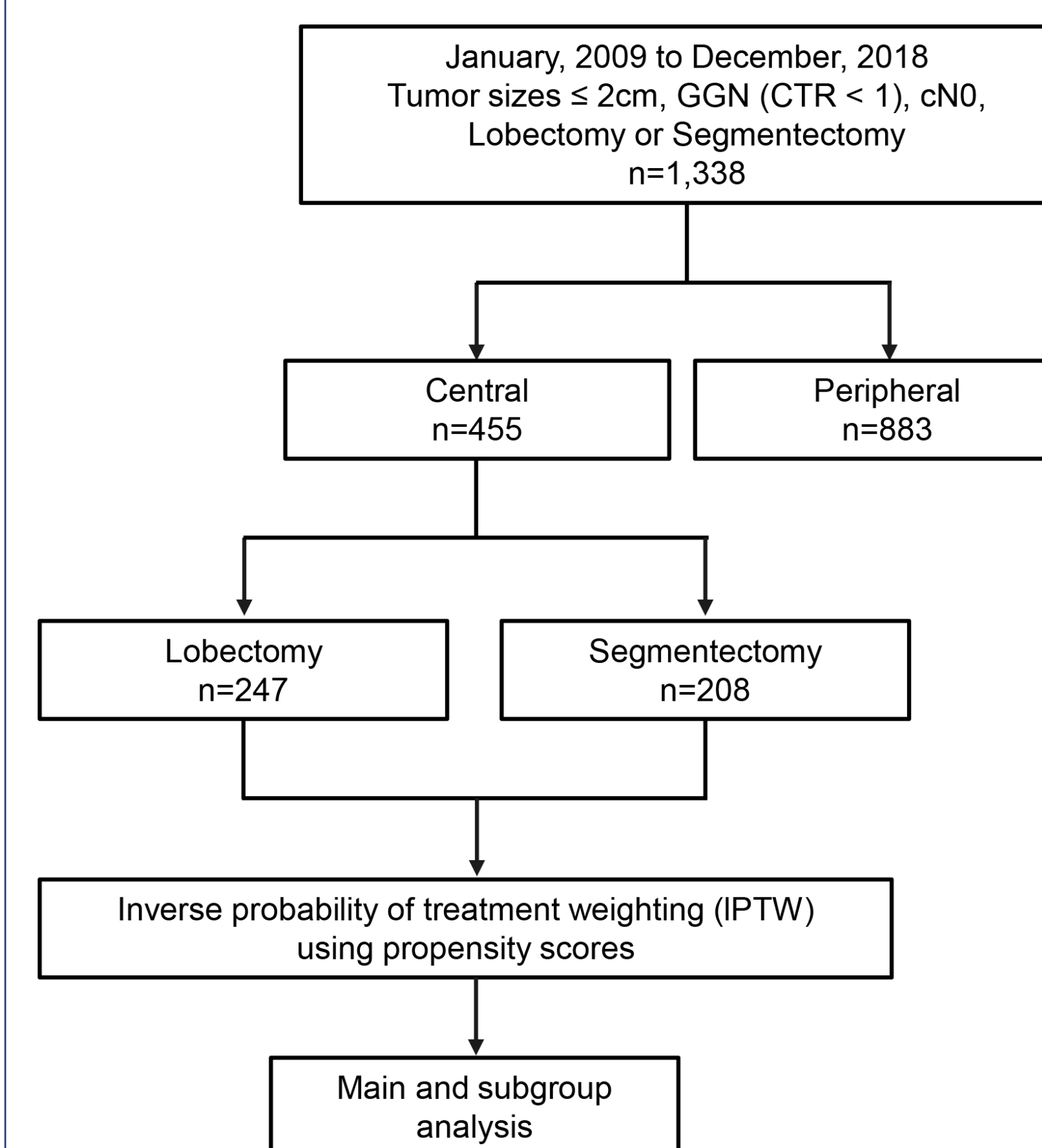
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No artificial intelligence (AI) tools were used in the development or preparation of these educational materials.

RESULTS

A total of 455 patients were included, with 247 undergoing lobectomy and 208 segmentectomy. The median follow-up was 81.1 months (range, 4.9–156.2). After IPTW adjustment, fewer lymph nodes were dissected in the segmentectomy group (median, 6 [4–9] vs. 9 [6–13]; $P < 0.001$), whereas other perioperative outcomes were comparable. No significant differences were observed in 5-year OS (97.2% vs. 96.1%; HR=1.60, 95% CI, 0.41–6.33; $P=0.502$), LCSS (97.7% vs. 97.1%; HR=1.58, 95% CI, 0.27–9.29; $P=0.614$), or RFS (96.5% vs. 95.7%; HR=1.39, 95% CI, 0.35–5.51; $P=0.637$), with similar 10-year outcomes. Multivariable analyses confirmed that segmentectomy was not an independent prognostic factor. Subgroup analyses showed no significant interactions, although patients with inner one-third tumors or higher consolidation-to-tumor ratios tended to have poorer outcomes after segmentectomy.

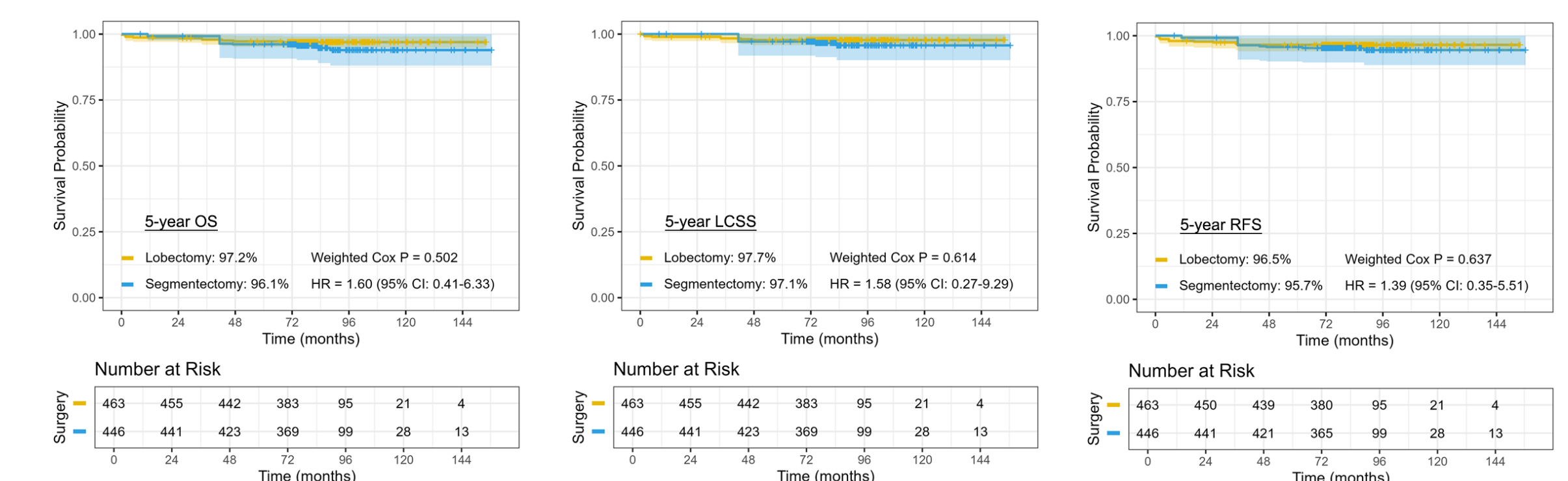
Study design



Key findings

- ✓ Segmentectomy achieves comparable perioperative and long-term outcomes to lobectomy in centrally located < 2 cm subsolid NSCLC.
- ✓ Tumors with higher consolidation-to-tumor ratios or inner-third locations may derive greater benefit from lobectomy.

Overall analysis



Subgroup analyses

