

Thoracoscopic Combined Subsegmentectomy for Lung Cancer in the Subsuperior Area of the Lower Lobe: Huaxi classification and approaches

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INTRODUCTION

- Lung cancers arising in the subsuperior area of the lower lobe lie deeply between the superior and basal segments.
- When sublobar resection is appropriate, lesions often require combined segmentectomy or sub-segmentectomy and are technically demanding, but published experience remains limited.
- We proposed the Huaxi classification based on tumor location, together with corresponding surgical approaches, and evaluated its clinical application.

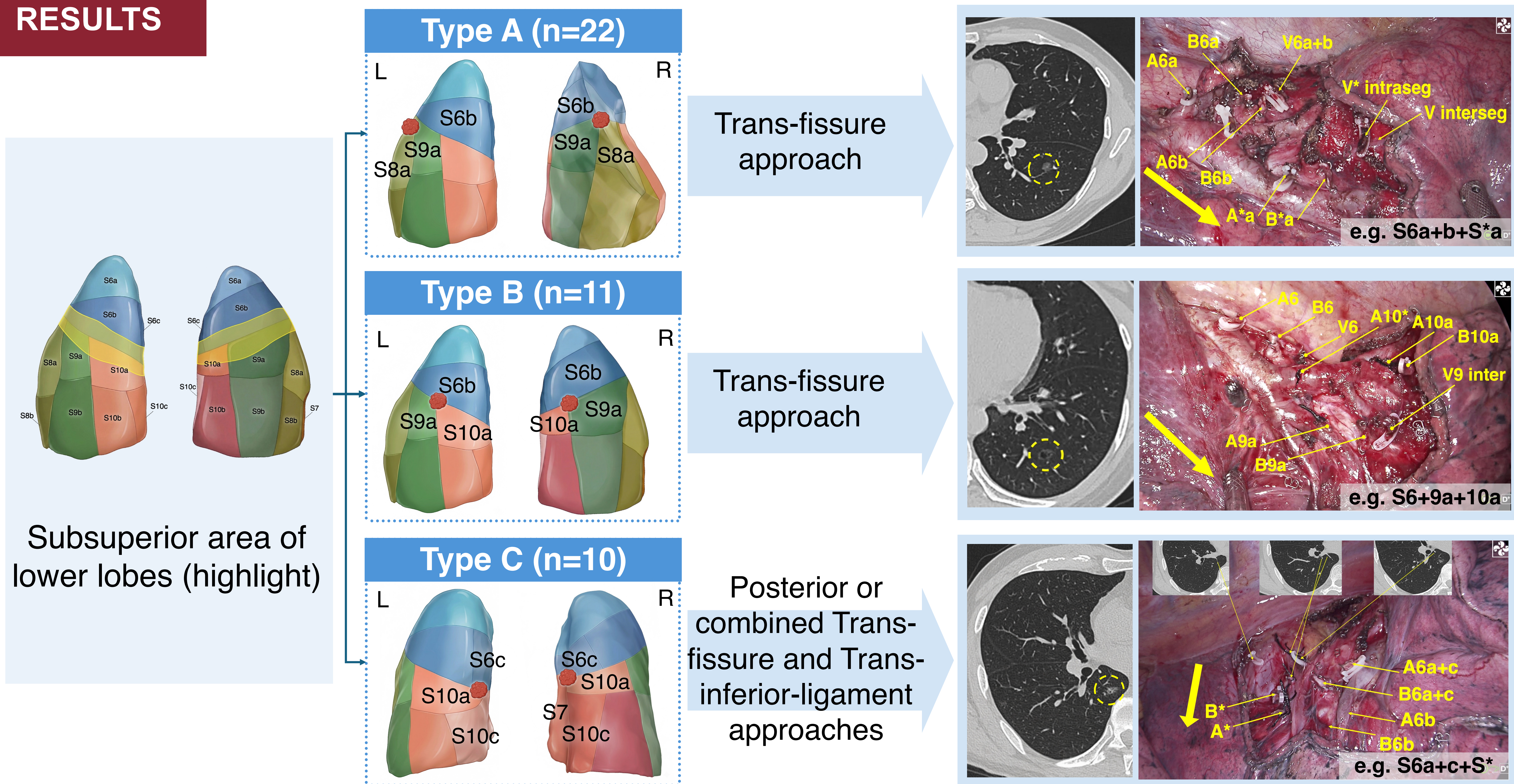
METHODS

- Patients with subsuperior-area lung cancer who underwent thoracoscopic combined segmentectomy or sub-segmentectomy at West China Hospital from March 2019 to July 2025 were included.
- Surgical planning and operative approach were guided by the Huaxi classification.
- Perioperative, functional, and follow-up outcomes were evaluated.

CONCLUSION

- For carefully selected lung cancers in the subsuperior area
- Thoracoscopic combined segmentectomy or sub-segmentectomy can achieve acceptable functional, and oncologic outcomes
- The Huaxi classification may provide a practical reference for surgical planning in this challenging region.

RESULTS



Perioperative Outcomes

Outcomes	Value
Operative duration, minutes	122 (110, 150)
Estimated blood loss, mL	20 (10, 20)
Chest tube duration, days	2 (2, 3)
Postop hospital stay, days	4 (3, 4)
Postop complications, n(%)	
Prolonged air leak	1 (2.3)
Chylothorax	1 (2.3)

Follow-up (median 56 months)

- No recurrence, metastasis, or death occurred.

Lung Function at 6 Months After Surgery

- 6.0% median declines for FEV1%
- 7.7% median declines for DLCO%