

P1.194 Challenging the Criteria for Sublobar Resection (Wedge versus Segmentectomy) in Early Stage Lung Cancer: A Systematic Review and Meta-Analysis

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INTRODUCTION

Lung cancer is the still one of the top causes of cancer-related death in the world. The advent of screening has significantly decreased this number. Cancers are now detected during its early-stage and more ground glass nodules are resected. The JCOG0802 trial demonstrated increased overall survival in sublobar resection versus lobectomy in patients with early-stage cancer ≤ 2 cm in size. Sublobar resection is either segmentectomy or wedge resection and the complexity of surgery differs considerably between these two. Many retrospective studies have tried to compare the difference in overall survival and recurrence free survival between anatomic resection and wedge resection and has shown advantage with anatomic resection. However, new studies show wedge resection offers lesser complication and often comparable survival outcome in select patients. Segmentectomy, on the other hand, requires a learning curve of about 80-100 cases to master the technique. Wedge resection may provide lower morbidity rates and shorter hospital stay compared to anatomic resection. The exact criteria for determining when to do wedge over segmentectomy has not been clearly defined in studies. This study aims to identify specific criteria for choosing between wedge or segmentectomy in patients with early-stage cancer and adequate pulmonary function.

METHODS

Design:

A systematic review of 6 cohort (one prospective and 5 retrospective) was conducted. Studies that compared wedge resection and segmentectomy in peripherally located lung cancers with ≤ 2 cm tumor size, and CTR ratio < 1 were selected thru PubMed, Cochrane and Hollis database. Dichotomous outcomes (overall survival, recurrence free survival, mortality and postoperative complications were measured. Pooled studies included a total of 4702 patients (2270 wedge resection and 2432 segmentectomy). Median age was between 61-70 years old, $\sim 60\%$ comprising of female patients. All patients had a new nodule detected thru a Chest CT-scan and had preoperative FEV1 more than 80%. Majority of the resection was done thru minimally invasive approach. ROBINS-I tool was used to appraise risk of bias. Meta-analysis was done using either the generic inverse variance or the Mantel-Haenszel methods.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Don't treat all early-stage cancer the same!
- Segmentectomy showed better OS and RFS for **solid** early-stage lung cancer.
- Wedge resection has comparable survival outcome and lower complication rate for lung cancer **2cm or less and CTR 0.5 or less (GGO).**

- Wedge $\sim \sim$ Segmentectomy with adequate margin and LN dissection

Future Direction for Research

- Randomized controlled trials are needed to further confirm this findings.

REFERENCES & ACKNOWLEDGEMENTS

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- Scan QR code for link to key studies



RESULTS

- Wedge resection had significantly lower overall complication rate with OR =0.51 [95% CI 0.39,0.67] with no heterogeneity.
- Overall recurrence rate and late mortality favored segmentectomy with OR 1.81 [0.93-3.52] and 1.53 [0.74-3.16], respectively. Segmentectomy had better 5-year RFS (CTR ≤ 0.5 = HR 1.42; CTR > 0.5 = HR 2.99). The difference, however, was **not significant**.
- Margin of resection and adequacy of lymph node evaluation were consistently adequate for segmentectomy than wedge.

