

EP07.07: Lobectomy Versus Sublobar Resection in ≤ 3 cm Solid-Dominant Adenocarcinoma With Solid- or Micropapillary-Predominant Subtype

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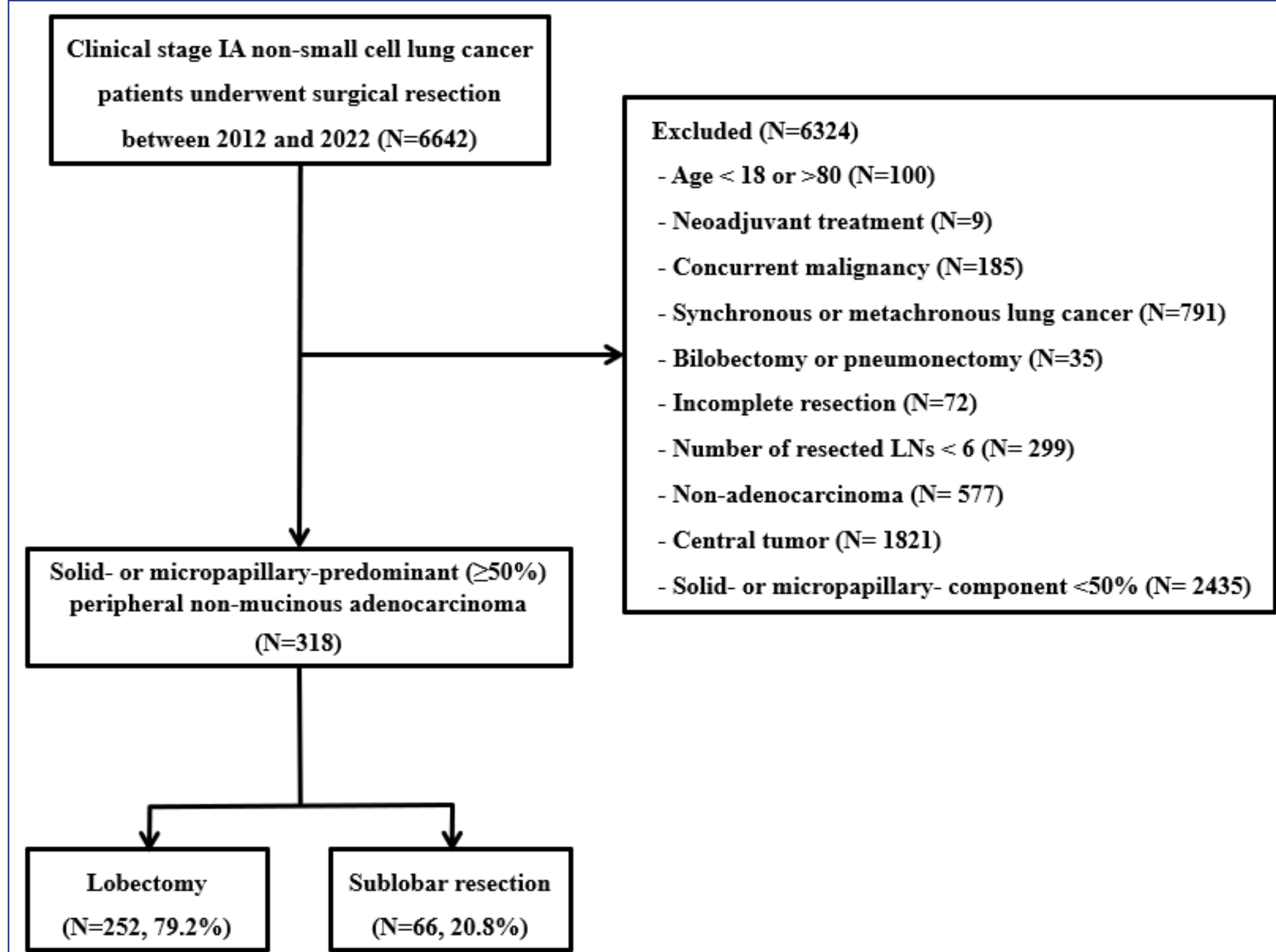
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INTRODUCTION

- Sublobar resection is an established treatment option for small peripheral early-stage lung cancer.
- Its oncologic adequacy in adenocarcinoma with high-grade predominant histology remains uncertain.
- We compared survival outcomes between lobectomy and sublobar resection in patients with ≤ 3 cm peripheral adenocarcinoma with solid- or micropapillary-predominant ($\geq 50\%$) histology.

METHODS



- Retrospective, single center study
- January 2012 – December 2022
- Peripheral ≤ 3 cm lung cancer
- Pathologically confirmed solid- or micropapillary-predominant ($\geq 50\%$) non-mucinous adenocarcinoma
- Comparison of lobectomy vs sublobar resection for overall survival (OS) and recurrence-free survival (RFS).

RESULTS

Table 1. Characteristics of patients

Variables	Lobectomy (N = 252)	Sublobar resection (N = 66)	P value
Age (years)	64.0 [56.0–70.0]	64.0 [61.0–70.0]	0.120
Sex			0.387
Female	105 (41.7%)	23 (34.8%)	
Male	147 (58.3%)	43 (65.2%)	
BMI (kg/m ²)	24.2 [22.1–25.9]	24.3 [22.4–27.1]	0.370
Smoking history			0.399
Never	124 (49.2%)	28 (42.4%)	
Current or former	128 (50.8%)	38 (57.6%)	
Number of comorbidities			0.154
0 or 1	190 (75.4%)	42 (63.6%)	
2	43 (17.1%)	16 (24.2%)	
≥ 3	19 (7.5%)	8 (12.1%)	
FEV1 (%)	87.0 [80.0–96.0]	84.0 [76.0–92.0]	0.015
DLCO (%)	86.0 [77.5–93.0]	78.5 [70.0–93.0]	0.011
Clinical tumor size (cm)	21.0 [17.0–26.0]	16.0 [13.0–21.0]	< 0.001
Clinical T stage			< 0.001
T1ab	124 (49.2%)	52 (78.8%)	
T1c	128 (50.8%)	14 (21.2%)	
CTR	1.0 [1.0–1.0]	1.0 [0.9–1.0]	0.165
CTR > 0.5	248 (98.4%)	65 (98.5%)	0.99
Surgical extent			
Lobectomy	252 (100.0%)		
Segmentectomy		44 (66.7%)	
Wedge resection		22 (33.3%)	
Total numbers of harvested LNs	24.0 [18.0–30.0]	19.5 [12.0–26.0]	< 0.001
Dominant cell type ($> 50\%$)			0.271
Micropapillary	52 (21.4%)	19 (28.8%)	
Solid	198 (78.6%)	47 (71.2%)	
Visceral pleural invasion (%)	61 (24.2%)	12 (18.2%)	0.383
Lymphovascular invasion (%)	140 (55.6%)	34 (51.5%)	0.654
Adjuvant chemotherapy (%)	71 (28.2%)	14 (21.2%)	0.326

Data are presented as numbers (%) or median [interquartile ranges] values unless otherwise indicated. BMI, Body mass index; FEV1, Forced expiratory volume in one second; DLCO, Diffusing capacity of the lung for carbon monoxide; CTR, Consolidation-to-tumor ratio; LN, Lymph node.

DISCUSSION AND CONCLUSION

- Among patients with peripheral lung adenocarcinoma with high-grade predominant histology, sublobar resection demonstrated comparable survival outcomes to lobectomy for tumors ≤ 2 cm.
- However, lobectomy was associated with superior RFS for tumors > 2 cm and ≤ 3 cm, supporting lobectomy for larger tumors.

Artificial Intelligence (AI) Use Disclaimer

The authors declare that no artificial intelligence (AI) tools were used in the preparation, writing, or editing of this manuscript.

RESULTS

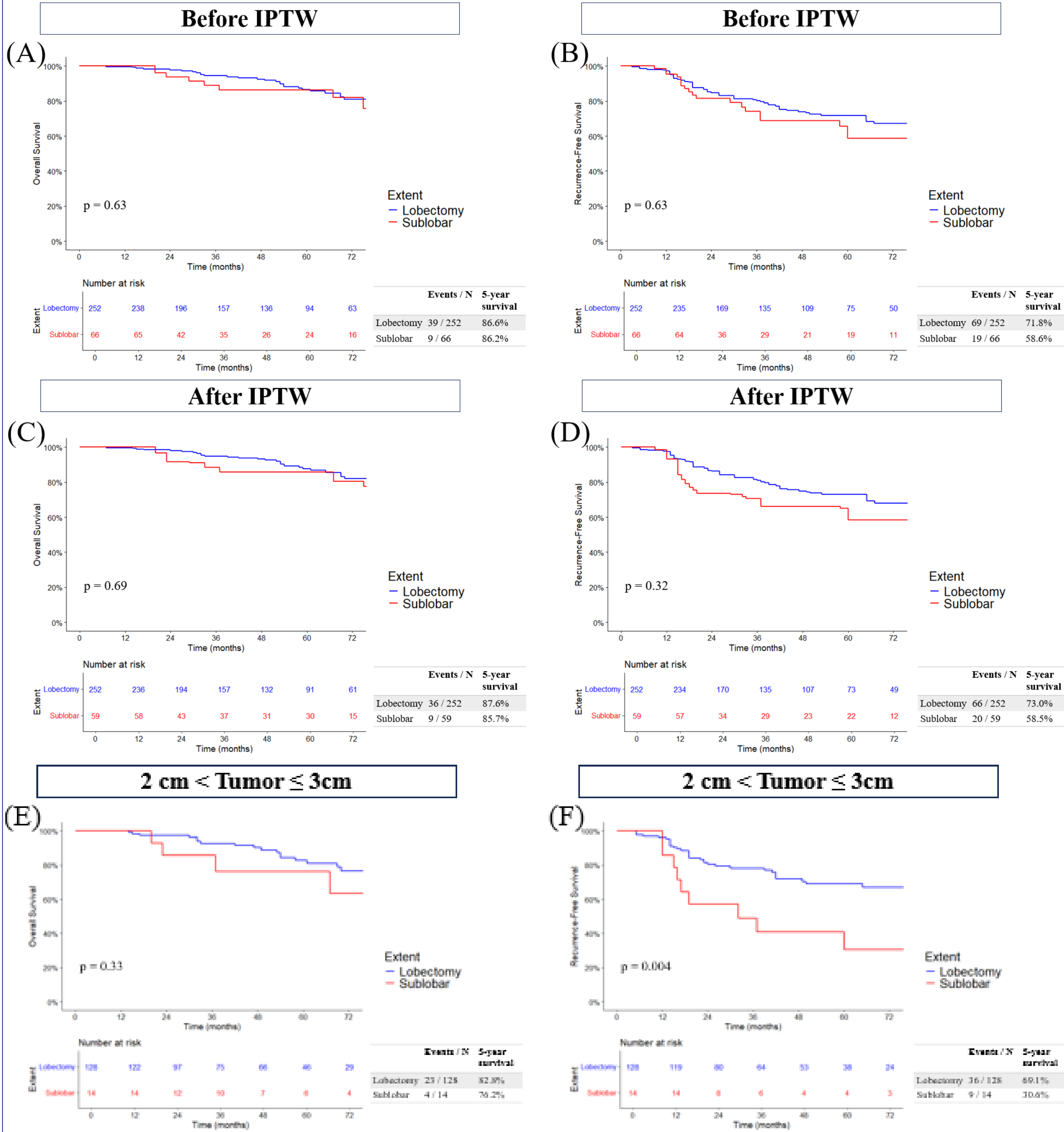


Figure 2. Overall survival (OS) and recurrence-free survival (RFS) according to extent of resection in patients with ≤ 3 cm peripheral non-mucinous adenocarcinoma with solid- or micropapillary-predominant ($\geq 50\%$) histology.

(A) OS before IPTW;
(B) RFS before IPTW;
(C) OS after IPTW;
(D) RFS after IPTW;
(E) OS in patients with tumors > 2 to 3 cm;
(F) RFS in patients with tumors > 2 to 3 cm.

- Among 318 patients, 252 (79.2%) underwent lobectomy and 66 (20.8%) underwent sublobar resection.
- Five-year OS did not differ between lobectomy and sublobar resection before (86.6% vs 86.2%; $p=0.63$) or after IPTW (87.6% vs 85.7%; $p=0.69$). Five-year RFS was also comparable before (71.8% vs 58.6%; $p=0.36$) and after IPTW (73.0% vs 58.5%; $p=0.32$).
- In multivariable analysis, sublobar resection was not associated with death (HR, 1.18; 95% CI, 0.52–2.60; $p=0.70$) or recurrence (HR, 1.27; 95% CI, 0.68–2.40; $p=0.45$).
- However, among patients with tumors > 2 cm, sublobar resection was associated with increased recurrence risk (HR, 3.01; 95% CI, 1.33–6.80; $p=0.008$).