



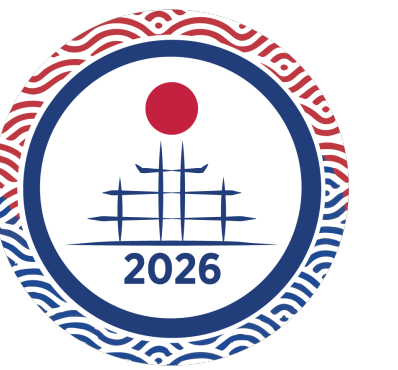
HIROSHIMA UNIVERSITY

Survival after recurrence following anatomical segmentectomy and lobectomy for patients with stage IA NSCLC

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BACKGROUND & OBJECTIVE

WHY THIS QUESTION MATTERS

- Recent pivotal clinical trials have reported the efficacy of sublobar resection in patients with early-stage NSCLC^{1,2}.
- JCOG0802/WJOG4607L trial demonstrated an overall survival benefit for segmentectomy over lobectomy, despite higher local recurrence^{2,3}.
- In the trial, segmentectomy allowed for extensive treatment of subsequent diseases after primary lung resection, such as recurrence².

JCOG0802/WJOG4607L (10 year results)	Segmentectomy	Lobectomy
Overall survival	83.6%	79.8%
Local relapse	11.2%	5.8%

Could preserved lung parenchyma influence post-recurrence survival ?

OBJECTIVE

Compare survival after recurrence following segmentectomy versus lobectomy for early-stage NSCLC.

METHODS

DESIGN

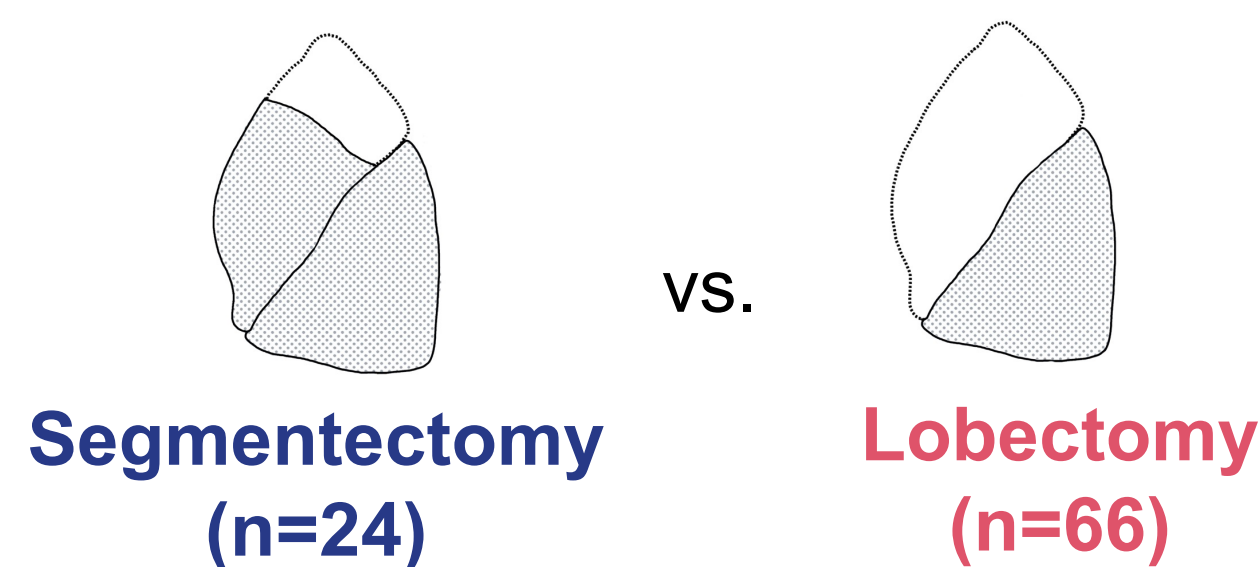
Retrospective, single-center cohort study

ELIGIBILITY

- Patients with recurrence after lobectomy or anatomical segmentectomy for clinical stage IA NSCLC treated from Apr 2007 to Sep 2024.
- Patients with interstitial pneumonia and those who underwent segmentectomy with passive intent due to comorbidities were excluded.

RECURRENT COHORT

Among 849 patients undergoing lobectomy or segmentectomy for clinical stage IA NSCLC, a total of 90 patients developed postoperative recurrence.



OUTCOME

Post-recurrence survival
: first recurrence to all-cause death or last follow-up.

ANALYSIS

Kaplan-Meier estimates and 5-year restricted mean survival time (RMST; 95% CI).

DISCUSSION AND CONCLUSION

INTERPRETATION

- The 5-year RMST for post-recurrence survival was 0.63 years (7.6 months) longer in the segmentectomy group than in the lobectomy group, and a similar trend was observed in the analysis restricted to patients with distant recurrence.
- As observed in JCOG0802/WJOG4607L¹, more intensive treatment was delivered to patients who developed recurrence after segmentectomy, possibly because the lower impact of segmentectomy on functional status⁴⁻⁶, including cardiopulmonary function, contributed to their ability to tolerate such treatment.

LIMITATIONS

- Small-sized, single-center retrospective study
- Functional status at recurrence could not be evaluated.

CONCLUSION &TAKE-HOME

- Post-recurrence survival was longer after segmentectomy than after lobectomy, although the difference did not reach statistical significance.
- This suggests that segmentectomy may offer a strategic advantage in managing recurrent disease by maintaining postoperative pulmonary function.

Future Direction for Research

This study highlights the potential benefits of segmentectomy and supports the rationale for ongoing clinical trials that aim to expand the indications for segmentectomy

WJOG16923L (STEPUP): pure-solid NSCLC measuring 2–3 cm (PIII)⁷
JCOG2217 (STRONG): solid-predominant GGN measuring 2–3 cm (PIII)⁸
JCOG2501 (UNLIMITED): centrally located NSCLC measuring ≤2 cm (PIII)
FRONTIER: stage II-III NSCLC undergoing neoadjuvant chemoimmunotherapy (PII)

REFERENCES & DISCLOSURES

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ARTIFICIAL INTELLIGENCE (AI) USE DISCLOSURE

OpenAI ChatGPT (Codex) was used to assist with English-language editing and poster formatting. AI was not used to generate or analyze study data. All data, statistical results, interpretations, and final content were independently reviewed and approved by the authors.

RESULTS

Patient characteristics

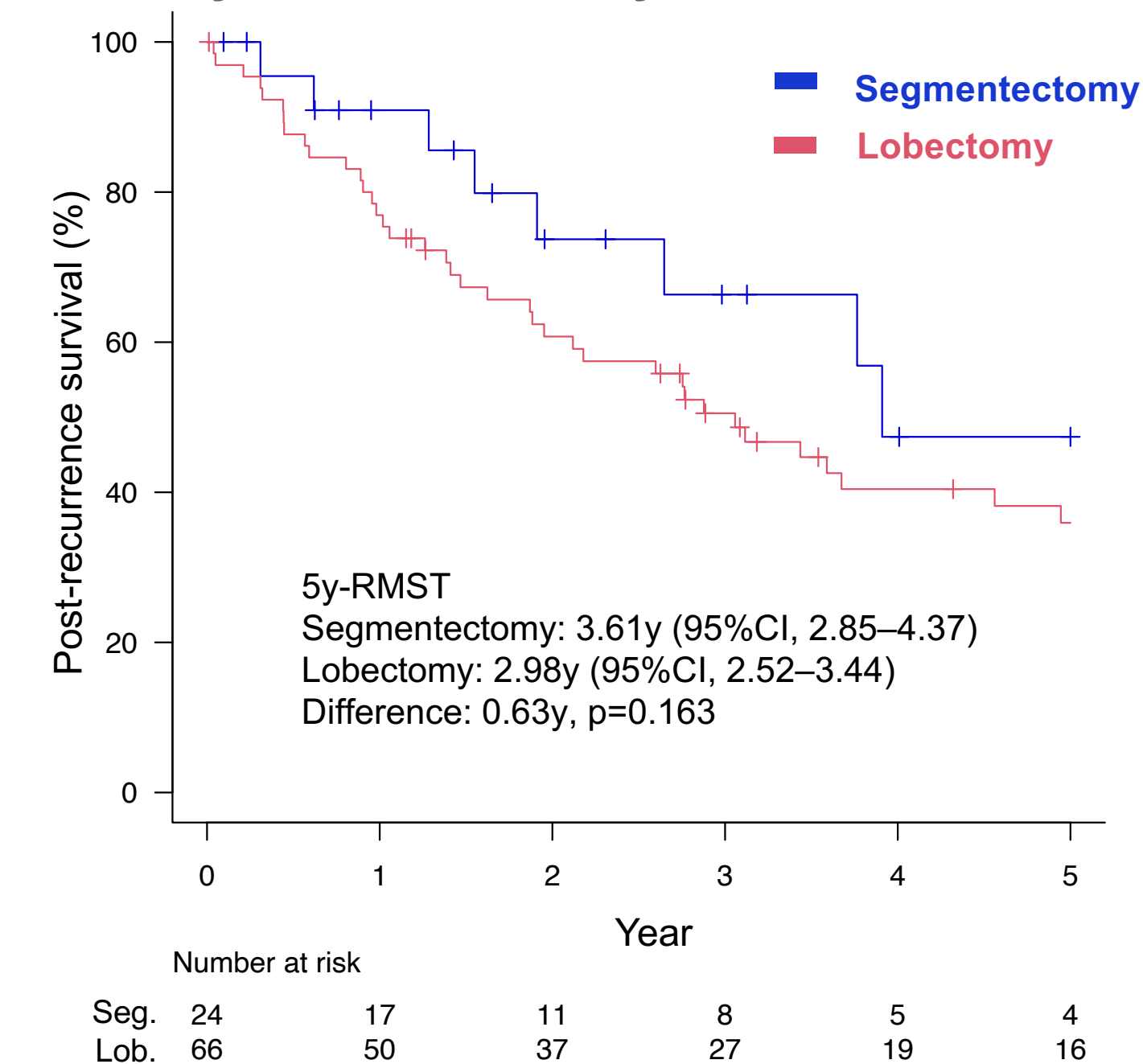
Patient characteristics at initial surgery

	Segmentectomy (n = 24)	Lobectomy (n = 66)	P
Age, y	73 [66–787]	71 [63–77]	0.383
Sex, male	12 (50.0%)	36 (54.6%)	1.0
Smoking history	12 (50.0%)	42 (63.6%)	0.331
Respiratory function			
FEV, 1.0%	73.4 [65.5–81.4]	75.4 [69.0–79.9]	0.803
VC, %	105.5 [92.3–117.7]	99.9 [92.0–110.7]	0.229
Histology, Adeno ca.	18 (75.0%)	52 (78.8%)	0.776
Lymphatic invasion	8 (33.3%)	41 (62.1%)	0.018
Vascular invasion	12 (50.0%)	42 (63.6%)	0.331
Pleural invasion	8 (33.3%)	29 (43.9%)	0.469
pStage, I/II/III	16(66.7%) / 3(12.5%) / 5(20.8%)	39(59.1%) / 12(18.2%) / 15(22.7%)	0.758
Adjuvant therapy	7 (29.2%)	31 (47.0%)	0.154

Survival after recurrence following segmentectomy and lobectomy

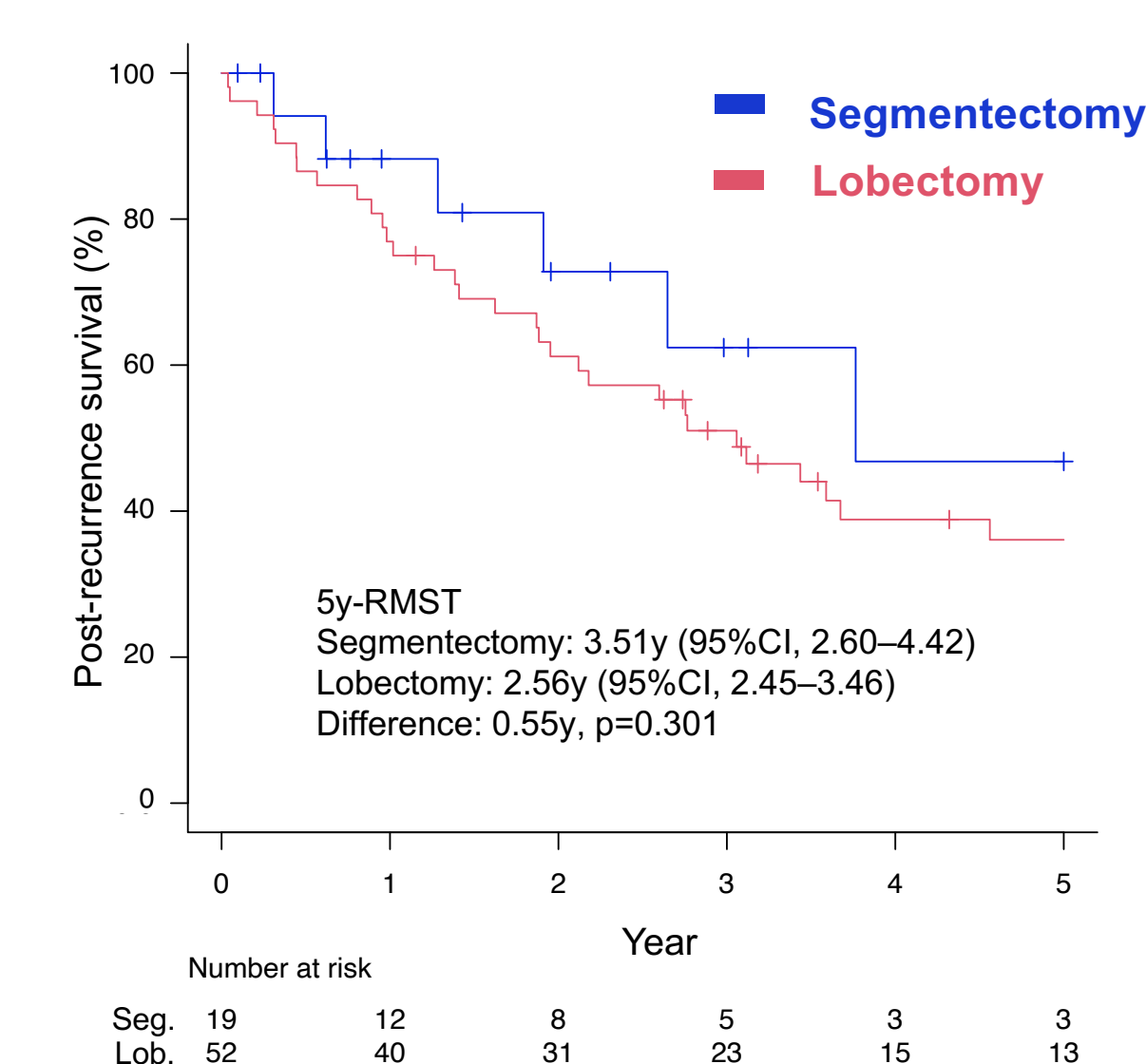
PRIMARY ANALYSIS (All cohort)

Segmentectomy n=24; lobectomy n=66

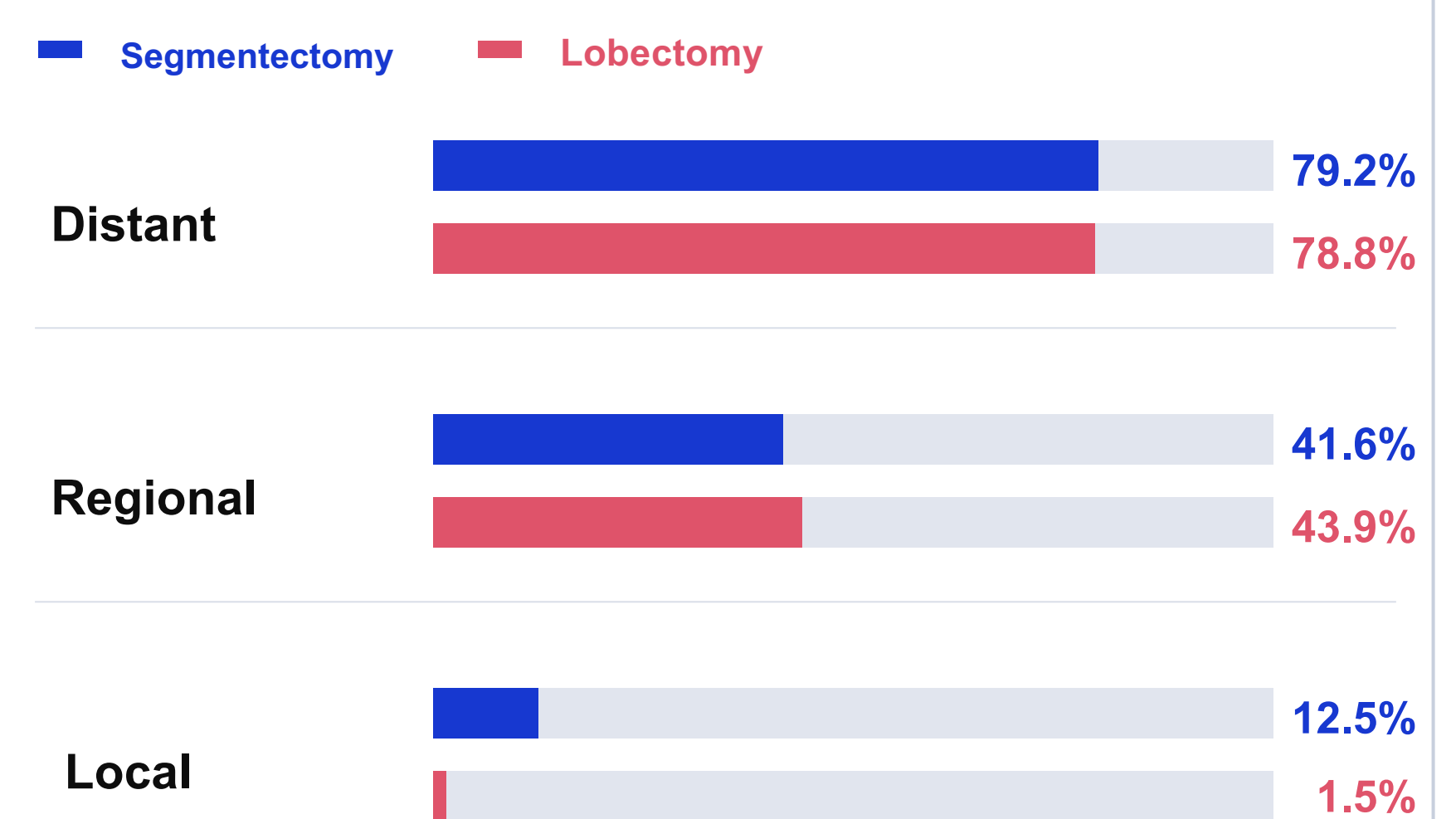


DISTANT RECURRENCE SUBSET

Segmentectomy n=19; lobectomy n=52



RECURRENCE PROFILE (ANY SITE)



Sites can overlap.

The median follow-up period after recurrence: 29.9 months

TREATMENT AFTER RECURRENCE

Treatment	Segmentectomy (n = 24)	Lobectomy (n = 66)
Surgery	8.3%	7.6%
Chemoradiotherapy	12.5%	6.1%
Systemic therapy	70.8%	66.7%
Radiotherapy alone	4.2%	12.2%
Best Supportive care	4.2%	6.1%

One treatment record was unknown after lobectomy. Descriptive categories are mutually exclusive.

5-YEAR RMST DIFFERENCE

+0.63 years

approximately 7.6 months

Segmentectomy vs lobectomy

3.61 vs 2.98 years

P=.163

Numerical difference; not statistically significant

DISTANT-RECURRENCE SUBSET (n=71)

5-y RMST: 3.51 vs 2.96 years

Difference +0.55 years; P=.301

TREATMENT AFTER RECURRENCE

**Surgery / Chemoradiotherapy / Systemic therapy
91.7% vs 80.3%**