

# 2024 대한심장혈관흉부외과학회 제56차 추계학술대회

2024. 10. 31 (Thu) - 11. 01 (Fri) 여수 엑스포 컨벤션센터



## Comparative Analysis of Pulmonary Function Following Lobectomy Versus Segmentectomy in Early-Stage Lung Cancer : A Prospective study

### 공지사항

- 소속기관이나 저자명이 드러나지 않도록 해주세요.
- 제목 슬라이드 포함 최대 6장, Font size 20 이상
- PPT 파일 작성 후 PDF로 전환해서 접수(필수)

- Anatomic segmentectomy is now considered to standard surgical option for early-stage non-small cell lung cancer.
- Segmentectomy is expected to be beneficial for pulmonary function as it preserves more parenchymal tissue compared to lobectomy.
- However, the recent Japan Clinical Oncology Group (JCOG) 0802/West Japan Oncology Group (WJOG) 4607L clinical trial found that the difference in the proportion of median forced expiratory volume in 1 second (FEV1) reduction between segmentectomy and lobectomy was only 3.5% at 12 months, which did not reach clinical significance.
- The functional benefit of segmentectomy compared with lobectomy remains controversial.
- In this regard, we aim to evaluate the pulmonary function and health-related quality of life instrument between segmentectomy and lobectomy in patients with early-stage non-small cell lung cancer using a single-center prospective database

- From Nov 2020 to Jan 2023, in single institution, prospective database
- Total 161 Patients
- Clinically Tumor size  $\leq 2\text{cm}$ , N0 and M0 patients who underwent lobectomy or segmentectomy were included.
- Patients with thoracotomy approach were excluded
- Spirometry and the 6-minute walk test were used to measure pulmonary function, while health-related quality of life was assessed using the EQ-5D-5L and HINT-8 surveys. These evaluations were conducted preoperatively, as well as at 0 to 3 months, 6 months, 12 months, and 18 months post-surgery.
- Estimated marginal means with baseline normalized value were used to compare values between the lobectomy and segmentectomy groups.

# Results –Baseline characteristics

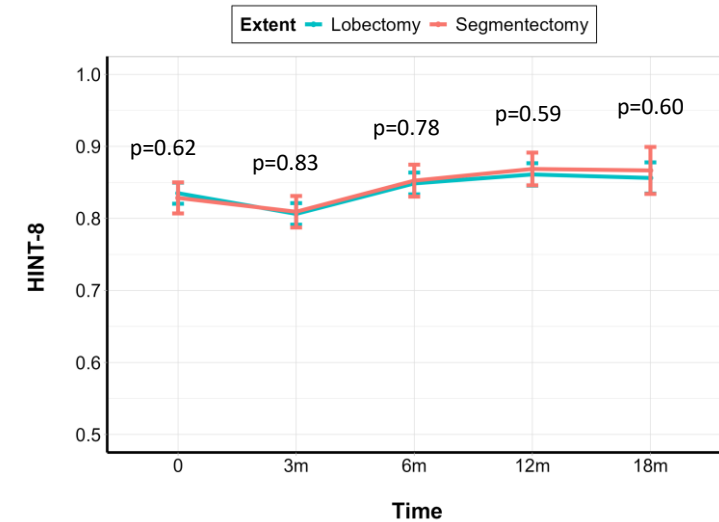
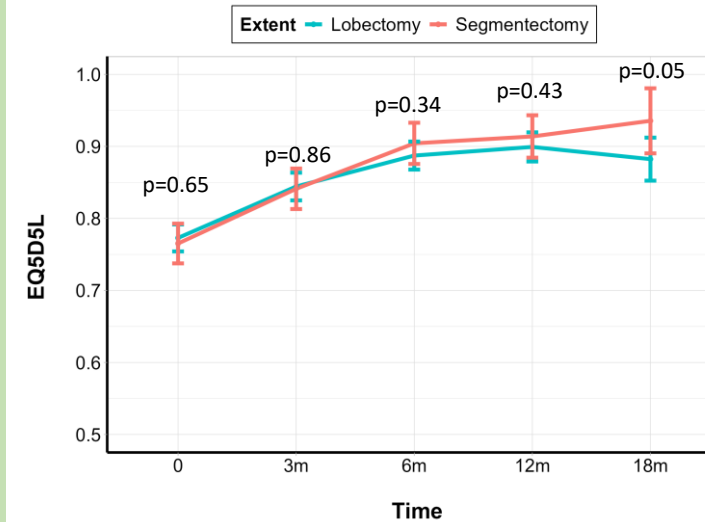
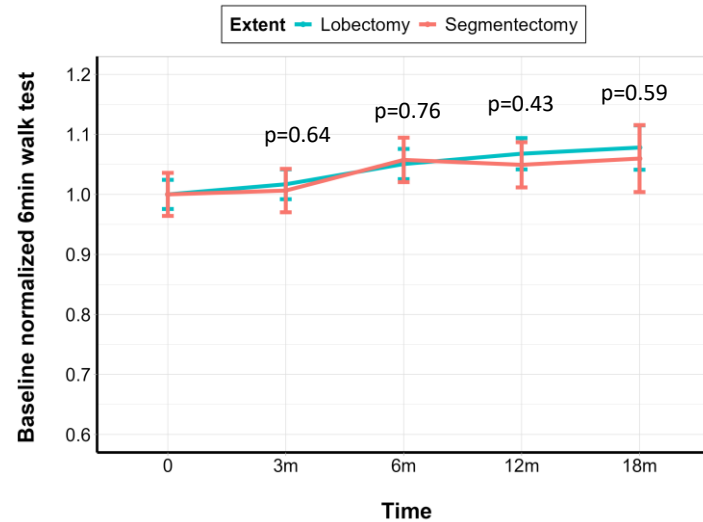
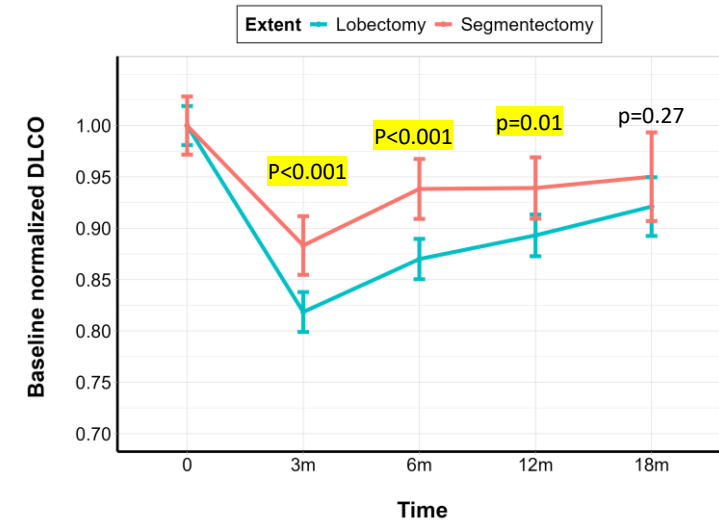
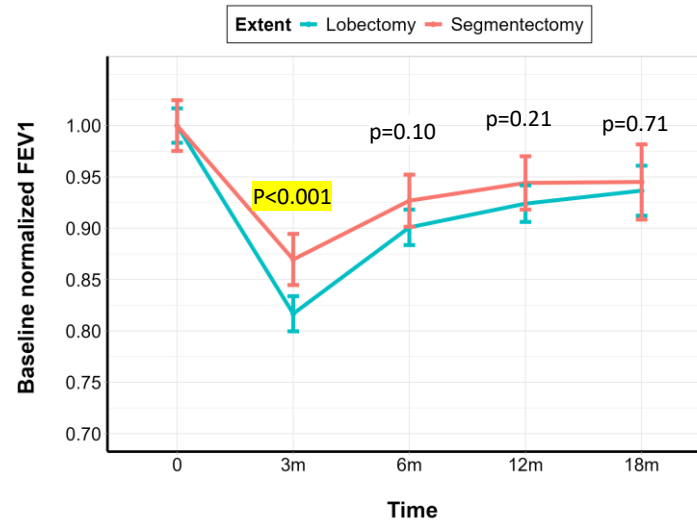
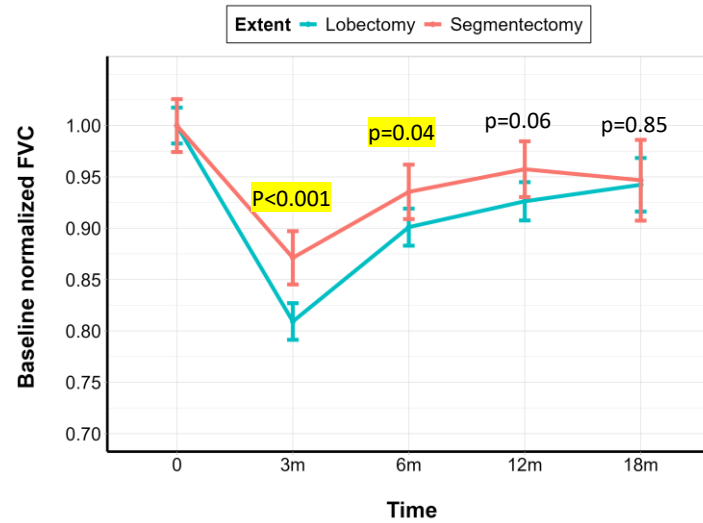
Extent	Lobectomy (N=110)	Segmentectomy (N=51)	p value
Sex (Male)	46 (41.8%)	21 (41.2%)	1
Age	60.3 ± 8.1	58.5 ± 10.1	0.244
BMI	24.2 ± 2.8	24.6 ± 3.2	0.383
Smoke (Yes)	39 (35.5%)	21 (41.2%)	0.601
ECOG			1
- 0	109 (99.1%)	50 (98.0%)	
- 1	1 ( 0.9%)	1 ( 2.0%)	
Comorbidity per person			0.597
- 0	48 (43.6%)	24 (47.1%)	
- 1	13 (11.8%)	9 (17.6%)	
- 2	24 (21.8%)	10 (19.6%)	
- ≥3	25 (22.7%)	8 (15.7%)	
Previous Cancer history (Yes)	5 ( 4.5%)	1 ( 2.0%)	0.72
Histology			0.538
- ADC	107 (97.3%)	50 (98.0%)	
- SqCC	1 ( 0.9%)	1 ( 2.0%)	
- Others	2 ( 1.8%)	0 ( 0.0%)	
Location			< 0.001
- LLL	18 (16.4%)	10 (19.6%)	
- LUL	21 (19.1%)	22 (43.1%)	
- RLL	14 (12.7%)	10 (19.6%)	
- RML	15 (13.6%)	0 ( 0.0%)	
- RUL	42 (38.2%)	9 (17.6%)	

Extent	Lobectomy (N=110)	Segmentectomy (N=51)	p value
cT stage			< 0.001
- T1mi	13 (11.8%)	12 (23.5%)	
- Tis	2 ( 1.8%)	7 (13.7%)	
- T1a	17 (15.5%)	19 (37.3%)	
- T1b	78 (70.9%)	13 (25.5%)	
Clinical stage			< 0.001
- Stage IA1	30 (27.3%)	31 (60.8%)	
- Stage IA2	77 (70.0%)	13 (25.5%)	
- Stage IA3	1 ( 0.9%)	0 ( 0.0%)	
pT stage			< 0.001
- T1mi	0 ( 0.0%)	2 ( 3.9%)	
- T1a	9 ( 8.2%)	20 (39.2%)	
- T1b	65 (59.1%)	22 (43.1%)	
- T1c	24 (21.8%)	5 ( 9.8%)	
- T2a	11 (10.0%)	2 ( 3.9%)	
pN stage			0.244
- N0	101 (91.8%)	50 (98.0%)	
- N1	7 ( 6.4%)	0 ( 0.0%)	
- N2	1 ( 0.9%)	1 ( 2.0%)	
pM stage			1
- M1a	1 ( 0.9%)	0 ( 0.0%)	
Pathologic stage			< 0.001
- Stage IA1	9 ( 8.2%)	22 (43.1%)	
- Stage IA2	63 (57.3%)	21 (41.2%)	
- Stage IA3	21 (19.1%)	5 ( 9.8%)	
- Stage IB	8 ( 7.3%)	2 ( 3.9%)	
- Stage IIB	7 ( 6.4%)	0 ( 0.0%)	
- Stage IIIA	1 ( 0.9%)	1 ( 2.0%)	



# Results – PFT and Health-related QOL

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Segmentectomy may preserve more pulmonary function than thoracoscopic lobectomy in the early postoperative period. The estimated mean reduction in FEV1 were 12.9% (10.3-15.5) for segmentectomy and 19.1% (17.3-20.9) for lobectomy. However, in long-term comparisons, no significant differences were observed between the two groups.

Although there was no difference in the subjective quality of life scales based on patient questionnaires and walking performances between the two groups, both groups exhibited a trend of gradual improvement compared to their pre-surgery status