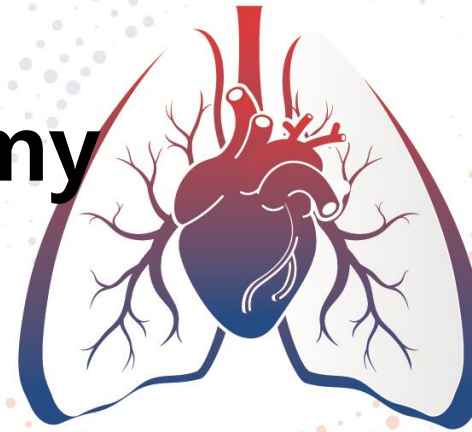


2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

A retrospective study to tracking changes in thorax volume and mediastinal shifting after bilobectomy



- Bilobectomy, a surgical procedure involving the removal of the right middle lobe (RML) and right lower lobe (RLL) of the lung, is the most extensive lung resection next to pneumonectomy
- Such extensive excision may be associated with cosmetic problems, unexplained pain, and hemodynamic changes.
- However, there is a lack of quantitative evaluation and studies on these changes according to the postoperative period.
- This study aims to investigate changes in thoracic volume on the operative and non-operative sides and the angle of mediastinum after bilobectomy.

- 2000 and July 2020
- 531 patients underwent bilobectomy
- 163 patients who underwent RML&RLL bilobectomy and have available radiologic data
- The right thoracic volume, left thoracic volume, and mediastinal angle were assessed through consecutive chest CT scans conducted prior to the operation, as well as at postoperative 6 months, 1 year, and 2 years
- Repeated measures ANOVA, T test

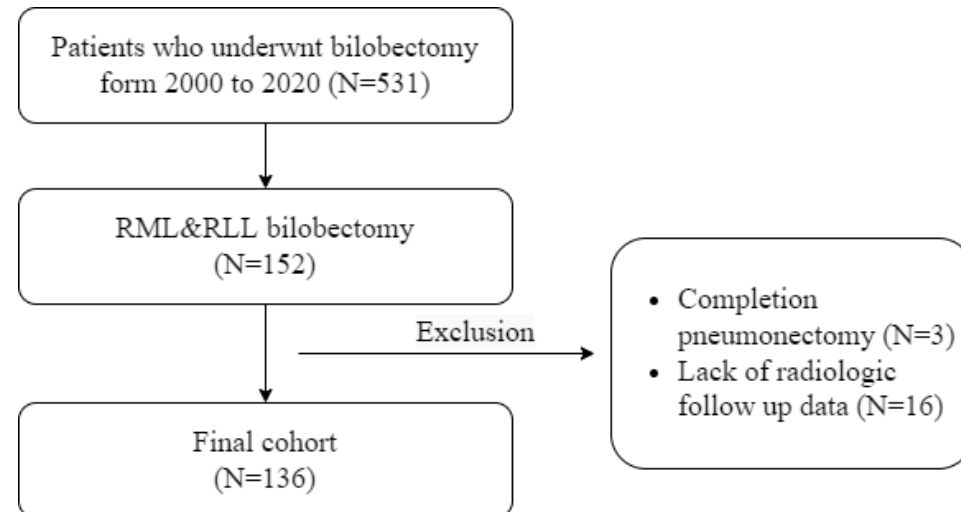
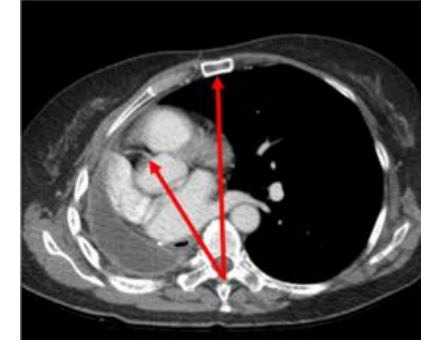
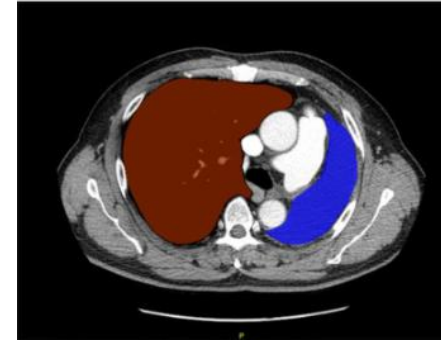


Table. Baseline characteristics of enrolled patients and operation data

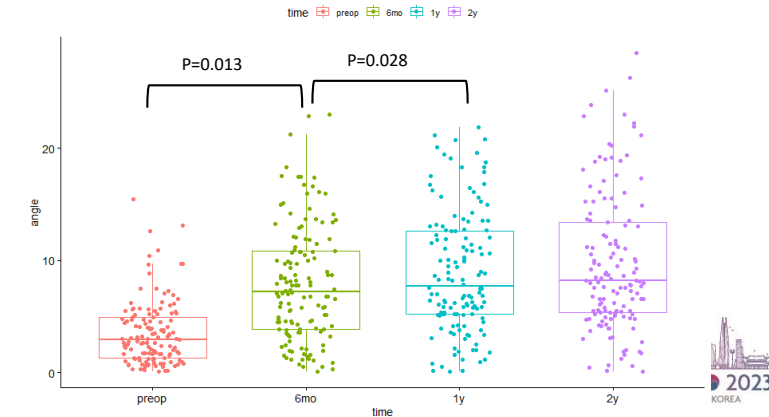
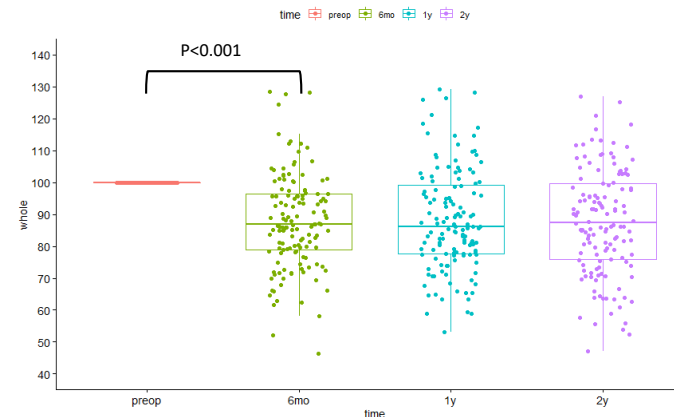
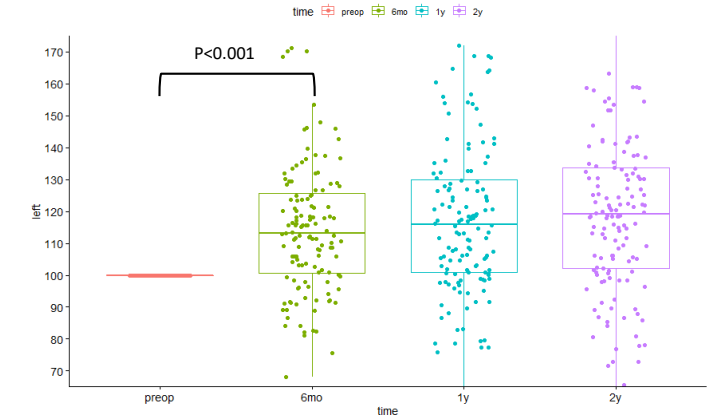
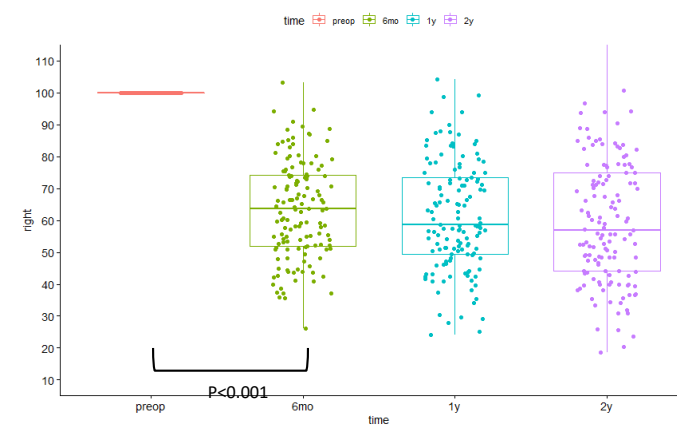
Variable	N=136
Age, years	73 (67-80)
Female, n(%)	18 (13.4)
Non cancer lesion	2 (1.5)
Neoadjuvant therapy	13 (9.7)
Chemotherapy	6 (4.5)
Chemoradiation therapy	7 (5.2)
Minimal invasive approach	28 (18.7)
Bronchospasty	4 (3.0)
Adhesiolysis	13 (9.7)
Incomplete resection	16 (12.0)
Wedge resection RUL	8 (6)

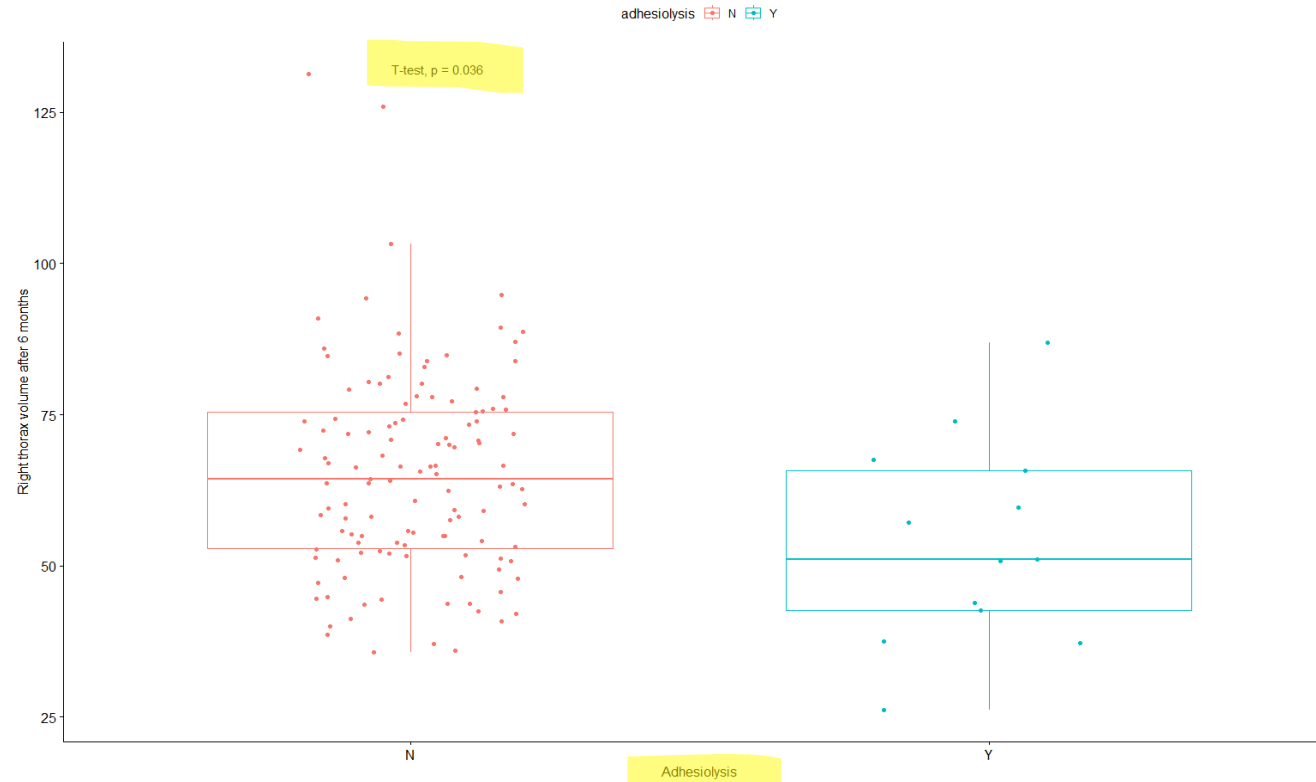
Data are presented as median (interquartile range) or no. (%) of patients.

- A statistically significant volume change was seen only in the preoperative to postoperative 6-month period
- Statistically significant angle changes were seen in the preoperative to postoperative 6-months period and postoperative 6 months to 1 year

Table. Median value with intertitle range of thoracic cavity volume(%) and angle

Variable	Pre-operative	Post-operative 6 months	Post-operative 1 year	Post-operative 2 years
Right lung(%)	100	63.6 (52.0-74.1)	58.5 (49.4-73.3)	57.0 (44.0-74.9)
Left lung(%)	100	113.3 (100.6-125.6)	116.2 (100.8-130.1)	119.1 (102.1-133.8)
Total lung(%)	100	86.8 (78.8-96.4)	86.1 (77.5-99.2)	87.3 (75.8-99.7)
Mediastinal angle(°)	2.9 (1.3-4.9)	7.2 (3.9-10.8)	7.7 (5.1-12.6)	8.2 (5.4-13.4)





- Statistically significant differences in right thorax volume at the 6-month postoperative were observed only in cases where adhesionolysis was performed.
- Other factors(pre-operative treatment, bronchoplasty, approach, incomplete resection were not seen statistically significant differences in right thorax volume

- This study showed that changes in the thoracic cavity occur rapidly within 6 months after bilobectomy.
- These changes involve significant volume changes in the lung and deviation of the mediastinum to the right.
- The results of this study provide quantitative data on changes in the thoracic cavity after bilobectomy surgery. And this information can serve as basis data for studies involving volume expanders aimed at preventing thoracic cavity deformities following extensive lung resection surgeries.