



O-059

ANATOMICAL SUBLOBAR RESECTION VERSUS PULMONARY LOBECTOMY FOR CLINICAL STAGE I NON-SMALL-CELL LUNG CANCER: PATIENTS SELECTION AND OUTCOME FROM THE EUROPEAN SOCIETY OF THORACIC SURGEONS DATABASE ANALYSIS

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Objectives:

Even though the “gold standard” procedure for clinical stage I non-small cell lung cancer (NSCLC) is pulmonary lobectomy, there is an increasing interest in anatomical sublobar resections; nevertheless, segmentectomies are still debated procedures. In European countries patients selection methods and outcomes are unknown. The primary purpose of the study was to describe the potential selection criteria for patients scheduled for lobectomy versus segmentectomy for stage I NSCLC. Secondary aim was to compare the two procedures, in terms of intraoperative variables and postoperative outcomes.

Methods:

Study design: observational multicenter retrospective cross-sectional. Data from European Society of Thoracic Surgeons database. Inclusion criteria were: pulmonary lobectomy or segmentectomy for stage I primary lung cancer (7th TNM edition), no previous lung surgery, no neo-adjuvant chemo or radiotherapy. The following clinical data were analyzed: age, ASA score, F_{ev1}, F_{vc}, D_{lco}, comorbidities, percentage of VATS procedures, complications rate, short-term outcomes. Data were described using median and IQR or absolute frequencies and percentage. Mann-Whitney or Chi-square test were performed as appropriate.

Results:

Among 63542 patients enrolled in the ESTS database from 2007 to 2018, 17692 met the inclusion criteria; 15845 patients received lobectomy and 1847 segmentectomy; VATS procedures were 27.8% and 31.9%, respectively. Lobectomy group was significantly younger, had lower ASA score, prevalence of comorbidities and better respiratory function. The segmentectomy group had lower complications rate (25.6% vs 33.8%). Considering the last 5 years, ASA score was similar between the two groups, although pulmonary function remained significantly lower in the segmentectomy group.

Conclusions:

In the ESTS database, segmentectomy was preferably offered to compromised patients, with limited respiratory function, higher ASA score and relevant comorbidities; despite this selection bias, the procedure had lower complications rate and similar short-term outcomes. Finally, tendency to propose segmentectomy even in patients with better clinical conditions had been noted in the last five years.

Variables	Lobectomy group(n=15845)	Segmentectomy group (n=1847)	p-value	C.I.
Sex, female, n (%)	5836 (36.8)	708 (38.3)	0.215	-3.8 – 0.9
Age (y), years, median (IQR)	65 (13)	66 (11)	<0.001	-2.0 – -1.0
ASA >2, n (%) n= 14930 - 1738	4212 (28.2)	554 (31.9)	0.002	-6.0 – -1.3
Any cardiac comorbidity, n (%) n= 12625 - 1368	5892 (46.7)	684 (50.0)	0.021	-6.2 – -0.5
Any other comorbidity, n (%) n= 10466 - 1184	3868 (37)	539 (45.5)	<0.001	5.5 – 11.6
COPD, n (%) n= 10466 - 1184	569 (5.4)	100 (8.4)	<0.001	-4.7 – -1.3
Previous malignancy, n (%) n= 10466 - 1184	664 (6.3)	125 (10.6)	<0.001	-6.1 – -2.3
Fev1, median (IQR) n= 5671 - 626	88 (26)	80 (30)	<0.001	5.9 – 9.0
Fvc%, median (IQR) n= 3450 - 321	97 (24)	91 (27)	<0.001	4.0 – 8.8
Dlco%, median (IQR) n= 4212 - 513	75 (27)	70 (27)	<0.001	3.0 – 7.0
Performed access VATS, n (%) n= 15095 - 1802	4203 (27.8)	575 (31.9)	<0.001	-6.4 – -1.8
Any Complication, n (%) n= 14253 - 1695	4814 (33.8)	434 (25.6)	<0.001	-1.4 – -5.9
Air leak >5 days, n (%) n= 14253 - 1695	1406 (9.9)	130 (7.7)	0.004	0.8 – 3.6
Atelectasis, n (%) n= 14253 - 1695	746 (5.3)	41 (2.4)	<0.001	2.0 – 3.6
Major pulmonary complications, n (%) n= 9426 - 945	1592 (16.9)	118 (12.5)	<0.001	2.1 – 6.7
Length of stay, median, days (IQR) n= 13682 - 1615	7.0 (4)	7.0 (5)	n.s.	
Alive at discharge, n (%) n= 14858 - 1707	14625 (98.4)	1688 (98.9)	0.176	-1.0 – 0.1

Disclosure: No significant relationships.

Keywords: lobectomy, segmentectomy, limited resection, ESTS database, stage I NSCLC