

Table 1. Characteristics of elderly patients (≥ 65 years) with non-small cell lung cancer undergoing pulmonary resection (n = 259)

Characteristics	Total (n = 259)	With sarcopenia (n = 179)	Without sarcopenia (n = 80)	p value
Age (years)	73 (65-92)	73 (65-83)	73 (65-92)	0.110
Sex				<0.001
Male	155	127	28	
Female	104	52	52	
Performance Status				0.131
0	221	151	70	
1	33	24	9	
2	4	4	0	
3	1	0	1	
Smoking habit				0.0203
Ever	150	112	38	
Never	109	67	42	
Pack-years	24 (0-138)	25 (0-138)	24 (0-112)	0.311
Body Mass Index (kg/m ²)	22.8 (14.7-35.9)	22.4 (14.7-35.7)	23.6 (17.5-35.9)	<0.001
Total protein (g/dl)	7.0 (6-8)	7.0 (6-8)	7.0 (6-8)	0.940
Albumin (g/dl)	4.10 (2.1-5.0)	4.1 (2.1-5.0)	4.1 (3.0-4.9)	0.551
Prognostic nutritional index	48.2 (27.3-64.2)	49.5 (27.3-64.2)	48.7 (36.0-58.0)	0.963
Preoperative %VC	106.6 (67.7-149.5)	106.5 (67.7-142.1)	106.5 (68.7-149.5)	0.969
Preoperative %FEV1	108.9 (50.0-172.8)	108.9 (50.0-168.2)	109.0 (52.7-172.8)	0.758
CEA (ng/ml)	2.9 (0.5-90.7)	2.9 (0.5-59.2)	2.7 (0.8-90.7)	0.921
Tumor subtype				0.237
Ad	174	120	54	
SCC	56	42	14	
Others	29	17	12	
Location				0.924
Right	150	102	48	
Left	109	77	32	
Tumor diameter (mm)	24 (6-120)	24 (6-120)	24 (7-65)	0.301
Diameter of solid component (mm)	17 (0-20)	18 (0-120)	15 (0-65)	0.0980
cStage				0.632
IA	155	106	49	
IB	56	39	17	
IIA	22	15	7	
IIB	15	11	4	
IIIA	11	8	3	
IIIB	0	0	0	
IV	0	0	0	
pStage				0.972
IA	154	105	49	
IB	57	41	16	
IIA	10	6	4	
IIB	6	5	1	
IIIA	26	18	8	
IIIB	3	2	1	
IV	3	2	1	
Operative procedures				0.804
Lobectomy	200	139	61	
Segmentectomy	59	40	19	
Surgical approach				0.378
Open	155	105	50	
Mini thoracotomy	62	47	15	
Thoracoscopic	42	27	15	
Skin incision (cm)	10 (3-20)	10 (3-20)	9 (3-20)	0.962
Lymph node dissection				0.990
ND0	4	3	1	
ND1b	73	51	22	
ND2a	136	94	42	
ND2b	46	31	15	
Operation time (min)	236 (60-594)	236 (60-594)	237 (126-429)	0.605
Transtusion				0.161
Yes	8	7	1	
No	251	172	79	
Conservative resection				0.655
Yes	108	73	35	
No	151	106	45	
Limited resection				0.893
Yes	19	15	4	
No	240	164	76	
Chest drain removal (postoperative days)	3 (1-18)	3 (2-18)	3 (1-18)	0.0521
Postoperative complications				0.0521
Clavien-Dindo				
2-3	83	64	19	
0-1	176	115	61	
Hospitalization days (days)	12 (5-380)	12 (6-380)	11 (5-156)	0.129
Recurrence				0.395
Yes	41	26	15	
No	218	153	65	

Data are presented as the number of patients or as medians (range)

UICC: Union for International Cancer Control, VC: Vital capacity, FEV1: Forced expiratory volume in the first second, Ad: Adenocarcinoma, SCC: Squamous cell carcinoma, ND: Node dissection.

Table 2. Summary of postoperative complications in elderly non-small cell lung cancer patients with or without sarcopenia

	Total	With sarcopenia		Without sarcopenia		<i>p</i> value
		Grade 2	Grade 3	Grade 2	Grade 3	
Pneumoniae	17	13	0	4	0	0.487
Leakage	24	4	15	2	3	0.247
Chylothorax	2	2	0	0	0	0.328
Atelectasis	11	6	3	2	0	0.329
Bronchial fistula	1	0	1	0	0	0.390
Thoracic empyema	2	0	1	0	1	0.125
Respiratory dysfunction	6	5	0	1	0	0.420
Arrhythmia	35	26	1	8	0	0.283
Heart failure	1	0	1	0	0	0.476
Pulmonary thrombus	1	0	0	1	0	0.125
Recurrent nerve paralysis	9	4	0	5	0	0.119
Bleeding	3	1	1	1	0	0.590
Surgical site infection	4	0	2	0	2	0.725
Pain	61	43	0	18	0	0.789
Delirium	17	12	0	5	0	0.906

Table 3. Univariate and multivariate analyses of clinicopathological factors affecting overall survival in elderly non-small cell lung cancer patients with or without sarcopenia

Characteristics		With sarcopenia						Without sarcopenia					
		Univariate analysis		Multivariate analysis				Univariate analysis		Multivariate analysis			
		HR	p value	HR	95% CI	p value	HR	p value	HR	95% CI	p value		
Sex	Male vs Female	6.08	0.00490	2.55	0.657 - 16.9	0.192	0.681	0.562					
Performance Status	≥ 1 vs 0	2.18	0.0521	3.02	0.833 - 10.7	0.0913	1.93	0.391					
Pack-year	≥ 30 vs < 30	2.46	0.0132	1.39	0.523 - 3.81	0.506	2.01	0.239					
Preoperative %VC	< 80 vs ≥ 80	2.90	0.0371	2.38	0.523 - 8.01	0.233	5.22	0.0188	2.01	0.302 - 14.3	0.354		
Preoperative %FEV1	< 80 vs ≥ 80	1.21	0.728				1.54	0.596					
CEA (ng/ml)	≥ 5 vs < 5	1.22	0.608				3.03	0.054					
Tumor subtype	SCC vs others	2.45	0.00593	0.475	0.150 - 1.36	0.170	7.54	< 0.001	2.15	0.280 - 13.4	0.440		
Location	Right vs Left	1.57	0.207				1.21	0.839					
cStage	≥ II vs < II	2.98	< 0.001	1.85	0.729 - 4.49	0.190	8.77	< 0.001	9.91	1.39 - 81.2	0.0211		
Operation	Lobectomy vs Segmentectomy	2.81	0.0753	2.52	0.673 - 16.4	0.187	1.67	0.506					
Surgical approach	Open vs others	1.87	0.109				1.71	0.424					
Lymph node dissection	ND2 vs others	1.22	0.121				1.58	0.261					
Conservative resection	Yes vs No	1.19	0.628				1.45	0.537					
Limited resection	Yes vs No	1.54	0.414				1.93	0.524					
Operation time (min)	≥ 225 vs < 225	1.89	0.101				1.57	0.469					
Blood loss (ml)	≥ 102 vs < 102	2.87	0.00331	2.03	0.770 - 5.75	0.153	3.29	0.0444	2.05	0.300 - 13.7	0.440		
Transfusion	Yes vs No	3.52	0.0122	0.871	0.191 - 3.39	0.848	1.49	0.692					
Postoperative complications	Clavien-Dindo ≥ 2 vs 0-1	5.19	< 0.001	2.99	1.22 - 7.82	0.0169	2.04	0.246					
Sarcopenia progression (Decrease in the PMI)	Yes vs No	3.52	0.00224	3.69	1.52 - 9.71	0.00370	3.30	0.260					

VC: Vital capacity, FEV1: Forced expiratory volume in the first second