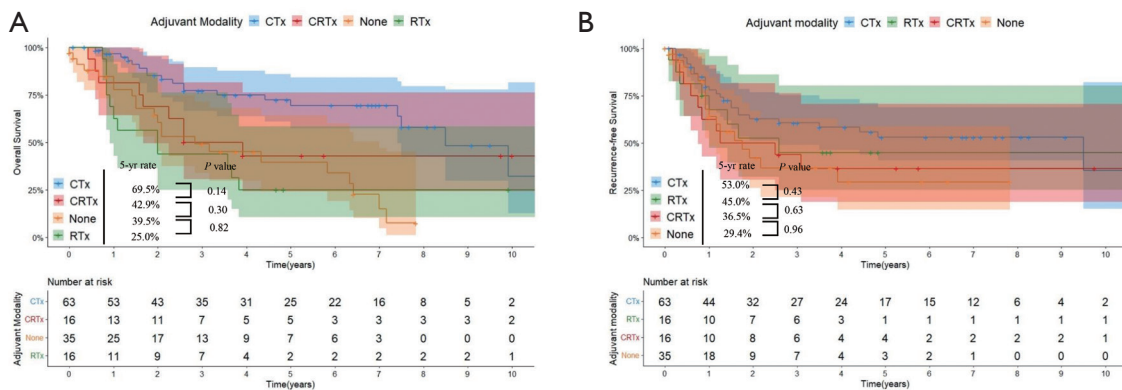
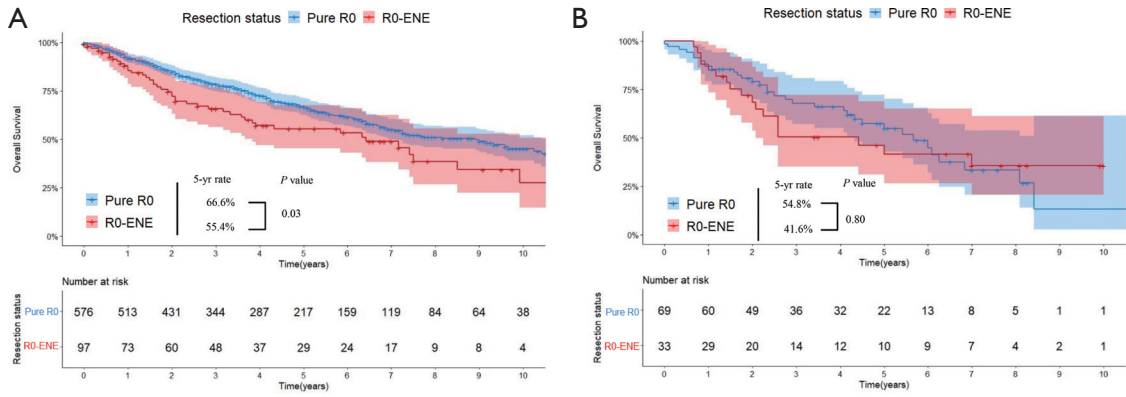


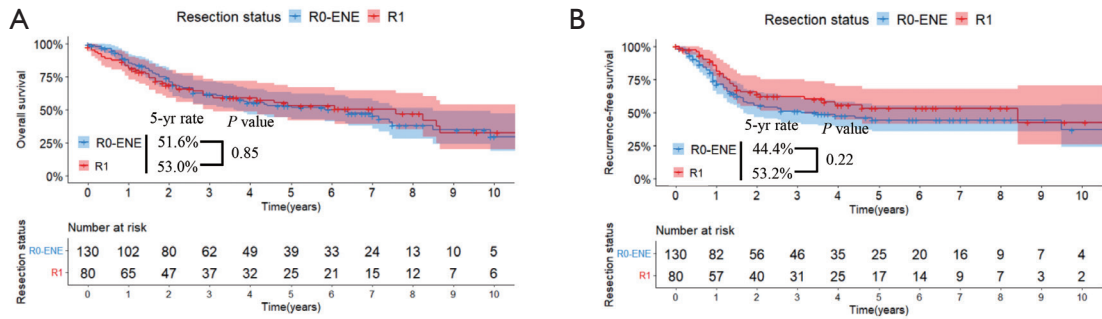
**Figure S1** Flow diagram of patient inclusion in the study. NSCLC, non-small-cell lung cancer; R0, complete resection; ENE, extranodal extension; R1/R2, incomplete resection.



**Figure S2** Overall survival (A) recurrence-free survival (B) of the R0-ENE and R1 groups. CTx, chemotherapy; CRTx, chemoradiation therapy; RTx, radiation therapy; R0-ENE, R0 with ENE; ENE, extranodal extension; R0, complete resection; R1, incomplete resection.



**Figure S3** Overall survival (A) recurrence-free survival (B) based on adjuvant treatment modality of patients with pN1 NSCLC diagnosed R0-ENE. pN1 NSCLC, pathologic N1 non-small-cell lung cancer; R0-ENE, R0 with ENE; ENE, extranodal extension; R0, complete resection.



**Figure S4** Overall survival of patients pN1a (A) and pN1b (B) NSCLC who underwent R0 resection. R0, complete resection; ENE, extranodal extension; R1, incomplete resection; pN1, pathologic N1; NSCLC, non-small-cell lung cancer.

**Table S1** Baseline characteristics of incomplete resection patients

Characteristics	R1 (N=80)	R2 (N=7)	P value
Age (years)	63.7±8.4	66.3±6.0	0.43
Sex, male	75 (95.0)	6 (85.7)	0.98
Never smoker	4 (5.0)	1 (14.3)	0.87
Comorbidity			0.41
0	32 (40.0)	1 (14.3)	
1	32 (40.0)	4 (57.1)	
≥2	16 (20.0)	2 (28.6)	
Operative method			0.26
Lobectomy	39 (48.8)	6 (85.7)	
Bilobectomy	13 (16.2)	0 (0.0)	
Pneumonectomy	15 (18.8)	1 (14.3)	
Sleeve lobectomy	13 (16.2)	0 (0.0)	
Preoperative PFT values			
FEV1 (%)	78.7±14.9	74.6±19.0	0.50
DLCO (%)	79.9±18.0	82.3±23.2	0.74
Cell type			0.54
Adenocarcinoma	59 (73.8)	6 (85.7)	
Squamous cell carcinoma	12 (15.0)	0 (0.0)	
Others	9 (11.2)	1 (14.3)	
The number of harvested LNs	30.8±13.5	28.7±16.1	0.70
Pathological T factor			0.97
pT1	12 (15.0)	1 (14.3)	
pT2	28 (35.0)	3 (42.9)	
pT3	23 (28.8)	2 (28.6)	
pT4	17 (21.2)	1 (14.3)	
Pathological TNM stage			1.00
pII	40 (50.0)	4 (57.1)	
pIII	40 (50.0)	3 (42.9)	
Adjuvant treatment			0.44
None	12 (15.0)	1 (14.3)	
CTx	8 (10.0)	2 (28.6)	
RTx	27 (33.8)	1 (14.3)	
CRTx	33 (41.2)	3 (42.9)	
Subdivided node status			0.83
pN1a	66 (82.5)	5 (71.4)	
pN1b	14 (17.5)	2 (28.6)	

Values are presented as numbers (%) or mean ± standard deviation unless otherwise indicated. R1/R2, incomplete resection. PFT, pulmonary function test; FEV1, forced expiratory volume in 1s; DLCO, diffusing capacity to carbon monoxide; LNs, lymph nodes; TNM, tumor, node, and metastasis; CTx, chemotherapy; RTx, radiation therapy; CRTx, chemoradiation therapy.

**Table S2** Univariable Cox analysis of patients pN1 NSCLC after complete surgical resection

Variables	Overall survival		Recurrence-free survival	
	HR (95% CI)	P value	HR (95% CI)	P value
Age	1.05 (1.03–1.06)	<0.001	1.00 (0.99–1.01)	0.70
Sex				
Female	1	ref.	1	ref.
Male	1.52 (1.15–2.01)	0.003	0.84 (0.66–1.06)	0.14
Smoking history				
No	1	ref.	1	ref.
Yes	1.37 (1.06–1.77)	0.02	0.79 (0.63–0.99)	0.04
Comorbidity				
0	1	ref.	1	ref.
1	1.15 (0.90–1.46)	0.28	0.86 (0.68–1.09)	0.21
≥2	1.24 (0.90–1.71)	0.18	0.90 (0.65–1.24)	0.50
Operative method				
Lobectomy	1	ref.	1	ref.
Bilobectomy	1.12 (0.78–1.61)	0.54	0.78 (0.52–1.17)	0.23
Pneumonectomy	1.01 (0.71–1.44)	0.97	0.74 (0.50–1.10)	0.13
Sleeve lobectomy	0.63 (0.35–1.13)	0.12	0.43 (0.23–0.80)	0.008
Preoperative PFT values				
FEV1	0.99 (0.99–1.00)	0.07	1.00 (0.99–1.01)	0.87
DLCO	0.99 (0.98–0.99)	<0.001	1.00 (0.99–1.00)	0.24
Cell type				
Adenocarcinoma	1	ref.	1	ref.
Squamous cell carcinoma	0.93 (0.74–1.18)	0.56	1.95 (1.53–2.48)	<0.001
Others	1.90 (1.30–2.77)	0.001	2.00 (1.32–3.03)	0.001
Pathological T factor				
pT1	1	ref.	1	ref.
pT2	1.04 (0.77–1.41)	0.78	1.14 (0.85–1.52)	0.39
pT3	1.89 (1.36–2.63)	<0.001	1.98 (1.43–2.74)	<0.001
pT4	1.66 (1.05–2.60)	0.03	1.38 (0.87–2.19)	0.17
Pathological TNM stage				
pII	1	ref.	1	ref.
pIII	1.80 (1.42–2.27)	<0.001	1.67 (1.33–2.10)	<0.001
Adjuvant treatment				
None	1	ref.	1	ref.
CTx	0.42 (0.32–0.55)	<0.001	0.73 (0.57–0.94)	0.02
RTx	0.71 (0.49–1.01)	0.06	0.64 (0.42–0.98)	0.04
CRTx	0.60 (0.42–0.86)	0.005	0.71 (0.48–1.06)	0.09
Subdivided node status				
pN1a	1	ref.	1	ref.
pN1b	1.54 (1.14–2.08)	0.005	1.95 (1.48–2.57)	<0.001
Extranodal extension				
Negative	1	ref.	1	ref.
Positive	1.45 (1.10–1.91)	0.009	1.34 (1.02–1.77)	0.04

pN1, pathologic N1; NSCLC, non-small-cell lung cancer; HR, hazard ratio; CI, confidence interval; ref., reference; PFT, pulmonary function test; FEV1, forced expiratory volume in 1s; DLCO, diffusing capacity to carbon monoxide; TNM, tumor, node, and metastasis; CTx, chemotherapy; RTx, radiation therapy; CRTx, chemoradiation therapy.

**Table S3** Univariable Cox analysis for overall survival in patients pN1 NSCLC with and without adjuvant chemotherapy after complete surgical resection

Variable	Overall survival			
	Adjuvant chemotherapy (+)		Adjuvant chemotherapy (-)	
	HR (95% CI)	P value	HR (95% CI)	P value
Age	1.04 (1.02–1.06)	<0.001	1.03 (1.01–1.05)	0.004
Sex				
Female	1	ref.	1	ref.
Male	1.61 (1.09–2.38)	0.02	1.49 (1.01–2.22)	0.05
Smoking history				
No	1	ref.	1	ref.
Yes	1.29 (0.91–1.82)	0.15	1.46 (1.00–2.13)	0.05
Comorbidity				
0	1	ref.	1	ref.
1	1.14 (0.80–1.61)	0.47	0.93 (0.66–1.32)	0.69
≥2	1.62 (1.06–2.48)	0.03	0.77 (0.47–1.25)	0.29
Operative method				
Lobectomy	1	ref.	1	ref.
Bilobectomy	0.98 (0.59–1.63)	0.94	1.31 (0.77–2.22)	0.32
Pneumonectomy	0.84 (0.48–1.47)	0.54	1.01 (0.63–1.62)	0.97
Sleeve lobectomy	0.46 (0.19–1.13)	0.09	0.94 (0.44–2.03)	0.88
Preoperative PFT values				
FEV1	0.99 (0.98–1.01)	0.28	1.00 (0.99–1.01)	0.32
DLCO	0.99 (0.98–1.00)	0.03	0.99 (0.98–1.00)	0.002
Cell type				
Adenocarcinoma	1	ref.	1	ref.
Squamous cell carcinoma	1.12 (0.80–1.56)	0.51	0.89 (0.63–1.26)	0.52
Others	2.56 (1.49–4.40)	<0.001	1.35 (0.80–2.28)	0.27
Pathological T factor				
pT1	1	ref.	1	ref.
pT2	0.89 (0.60–1.33)	0.58	1.30 (0.832–2.03)	0.25
pT3	1.70 (1.08–2.68)	0.02	2.13 (1.32–3.46)	0.002
pT4	1.90 (1.05–3.44)	0.03	1.43 (0.71–2.88)	0.32
Pathological TNM stage				
pII	1	ref.	1	ref.
pIII	1.93 (1.39–2.67)	<0.001	1.59 (1.13–2.23)	0.005
Subdivided node status				
pN1a	1	ref.	1	ref.
pN1b	1.34 (0.89–2.03)	0.16	1.62 (1.15–2.26)	0.005
Extranodal extension				
Negative	1	ref.	1	ref.
Positive	1.20 (0.80–1.81)	0.38	1.75 (1.19–2.57)	0.004

pN1, pathologic N1; NSCLC, non-small-cell lung cancer; HR, hazard ratio; CI, confidence interval; ref., reference; PFT, pulmonary function test; FEV1, forced expiratory volume in 1s; DLCO, diffusing capacity to carbon monoxide; TNM, tumor, node, and metastasis.