Supplementary

Table S1 The distribution of LN dissection of the enrolled patients before and after PSM

Characteristics	Before PSM			After PSM		
	8LND⁻ patients (n=948)	8LND⁺ patients (n=261)	P	8LND⁻ patients (n=522)	8LND⁺ patients (n=261)	P
Station 2 LN dissection, n (%)			0.84			0.62
No	369 (38.9)	104 (39.8)		197 (37.7)	104 (39.8)	
Yes	579 (61.1)	157 (60.2)		325 (62.3)	157 (60.2)	
Dissected station 2 LNs, mean ± SD	1.68±2.16	1.59±2.25	0.55	1.59±1.98	1.59±2.25	>0.99
Station 3 LN dissection, n (%)			0.007			0.50
No	851 (89.8)	218 (83.5)		447 (85.6)	218 (83.5)	
Yes	97 (10.2)	43 (16.5)		75 (14.4)	43 (16.5)	
Dissected station 3 LNs, mean ± SD	0.17±0.62	0.31±1.04	0.005	0.22±0.62	0.31±1.04	0.10
Station 4 LN dissection, n (%)			0.65			0.89
No	239 (25.2)	70 (26.8)		136 (26.1)	70 (26.8)	
Yes	709 (74.8)	191 (73.2)		386 (73.9)	191 (73.2)	
Dissected station 4 LNs, mean ± SD	1.63±1.66	1.61±1.64	0.90	1.52±1.48	1.61±1.64	0.44
Station 5 LN dissection, n (%)			0.44			>0.99
No	620 (65.4)	178 (68.2)		355 (68.0)	178 (68.2)	
Yes	328 (34.6)	83 (31.8)		167 (32.0)	83 (31.8)	
Dissected station 5 LNs, mean ± SD	0.58±0.99	0.45±0.79	0.04	0.54±0.96	0.45±0.79	0.20
Station 6 LN dissection, n (%)			0.40			0.78
No	726 (76.6)	207 (79.3)		420 (80.5)	207 (79.3)	
Yes	222 (23.4)	54 (20.7)		102 (19.5)	54 (20.7)	
Dissected station 6 LNs, mean ± SD	0.42±1.02	0.37±0.96	0.43	0.33±0.83	0.37±0.96	0.53
Station 7 LN dissection, n (%)			>0.99			>0.99
No	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Yes	948 (100.0)	261 (100.0)		522 (100.0)	261 (100.0)	
Dissected station 7 LNs, mean ± SD	2.26±1.63	1.92±1.39	0.002	1.94±1.29	1.92±1.39	0.85
Station 9 LN dissection, n (%)			<0.001			0.65
No	447 (47.2)	83 (31.8)		176 (33.7)	83 (31.8)	
Yes	501 (52.8)	178 (68.2)		346 (66.3)	178 (68.2)	
Dissected station 9 LNs, mean ± SD	0.73±0.88	0.86±0.75	0.03	0.88±0.86	0.86±0.75	0.69
Station 10 LN dissection, n (%)			0.001			>0.99
No	194 (20.5)	30 (11.5)		59 (11.3)	30 (11.5)	
Yes	754 (79.5)	231 (88.5)		463 (88.7)	231 (88.5)	
Dissected station 10 LNs, mean ± SD	1.84±1.77	2.03±1.55	0.12	1.98±1.61	2.03±1.55	0.67
Station 11 LN dissection, n (%)			0.22			0.69
No	179 (18.9)	40 (15.3)		73 (14.0)	40 (15.3)	
Yes	769 (81.1)	221 (84.7)		449 (86.0)	221 (84.7)	
Dissected station 11 LNs, mean ± SD	1.81±1.61	1.83±1.64	0.89	1.94±1.57	1.83±1.64	0.35
Station 12 LN dissection, n (%)			0.28			>0.99
No	492 (51.9)	125 (47.9)		251 (48.1)	125 (47.9)	
Yes	456 (48.1)	136 (52.1)		271 (51.9)	136 (52.1)	
Dissected station 12 LNs, mean ± SD	1.04±1.49	1.03±1.44	0.87	1.06±1.40	1.03±1.44	0.75
Station 13 LN dissection, n (%)			0.02			0.66
No	797 (84.1)	235 (90.0)		463 (88.7)	235 (90.0)	
Yes	151 (15.9)	26 (10.0)		59 (11.3)	26 (10.0)	
Dissected station 13 LNs, mean ± SD	0.32±0.89	0.18±0.61	0.02	0.21±0.73	0.18±0.61	0.51

PSM, propensity score matching; 8LND, station 8 lymph node dissection; LN, lymph node; SD, standard deviation.

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Table S2 Univariable and multivariable analysis of the CSS in all enrolled patients

Characteristics	Univariable analysis		Multivariable analysis	
	HR (95% CI)	P	HR (95% CI)	P
Age (years)				
<50	Reference		Reference	
50–59	1.66 (0.53–5.21)	0.39	1.33 (0.42–4.23)	0.63
60–69	1.18 (0.37–3.77)	0.78	0.9 (0.28–2.94)	0.86
≥70	3.93 (1.25–12.33)	0.02	2.14 (0.66–7.01)	0.21
Sex				
Female	Reference		Reference	
Male	2.18 (1.12–4.23)	0.02	2.32 (1.17–4.62)	0.02
Smoking status				
No	Reference			
Yes	1.16 (0.57–2.36)	0.68		
BMI (kg/m^2)				
<24	Reference			
≥24	0.88 (0.45–1.72)	0.71		
Primary site				
Right upper lobe	Reference		Reference	
Right middle lobe	2.41 (0.92–6.36)	0.08	2.21 (0.82–5.98)	0.12
Right lower lobe	1.06 (0.36–3.1)	0.92	1.04 (0.35–3.1)	0.94
Left upper lobe	1.3 (0.51–3.33)	0.58	1.46 (0.57–3.77)	0.43
Left lower lobe	1.78 (0.64–4.9)	0.27	1.66 (0.59–4.63)	0.33
Size				
≤1 cm	Reference		Reference	
>1–2 cm	3.12 (0.41–23.72)	0.27	2.68 (0.34–20.83)	0.35
>2–3 cm	5.72 (0.77–42.59)	0.09	3.27 (0.42–25.15)	0.26
T classification				
T1	Reference		Reference	
T2	2.34 (1.02–5.35)	0.05	1.61 (0.67–3.87)	0.29
Differentiation				
Well differentiated	Reference		Reference	
Moderately differentiated	2.78 (0.63–12.19)	0.18	2.25 (0.5–10.12)	0.29
Poorly differentiated	10.18 (2.37–43.75)	0.002	6.91 (1.55–30.84)	0.01
Adjuvant chemotherapy				
No	Reference			
Yes	1.03 (0.43–2.5)	0.94		
Station 2 dissection				
No	Reference			
Yes	0.66 (0.34–1.27)	0.21		
Station 3 dissection				
No	Reference			
Yes	1.34 (0.61–2.95)	0.47		
Station 4 dissection				
No	Reference			
Yes	0.58 (0.29–1.15)	0.12		
Station 5 dissection				
No	Reference			
Yes	1.14 (0.57–2.25)	0.72		

Table S2 *(continued)*

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Table S2 *(continued)*

Characteristics	Univariable analysis		Multivariable analysis	
	HR (95% CI)	P	HR (95% CI)	P
Station 6 dissection				
No	Reference			
Yes	1.26 (0.61–2.62)	0.53		
Dissected station 2 LNs				
≤2	Reference			
>3	1.25 (0.63–2.48)	0.52		
Station 8 dissection				
No	Reference		Reference	
Yes	0.37 (0.13–1.04)	0.06	0.35 (0.12–1.00)	0.05
Station 9 dissection				
No	Reference			
Yes	0.79 (0.4–1.54)	0.49		
Station 10 dissection				
No	Reference			
Yes	1.08 (0.45–2.6)	0.86		
Station 11 dissection				
No	Reference			
Yes	0.81 (0.39–1.68)	0.57		
Station 12 dissection				
No	Reference			
Yes	0.97 (0.48–1.96)	0.93		
Station 13 dissection				
No	Reference			
Yes	0 (0–Inf)	>0.99		

CSS, cancer-specific survival; HR, hazard ratio; CI, confidence interval; BMI, body mass index; LN, lymph node.

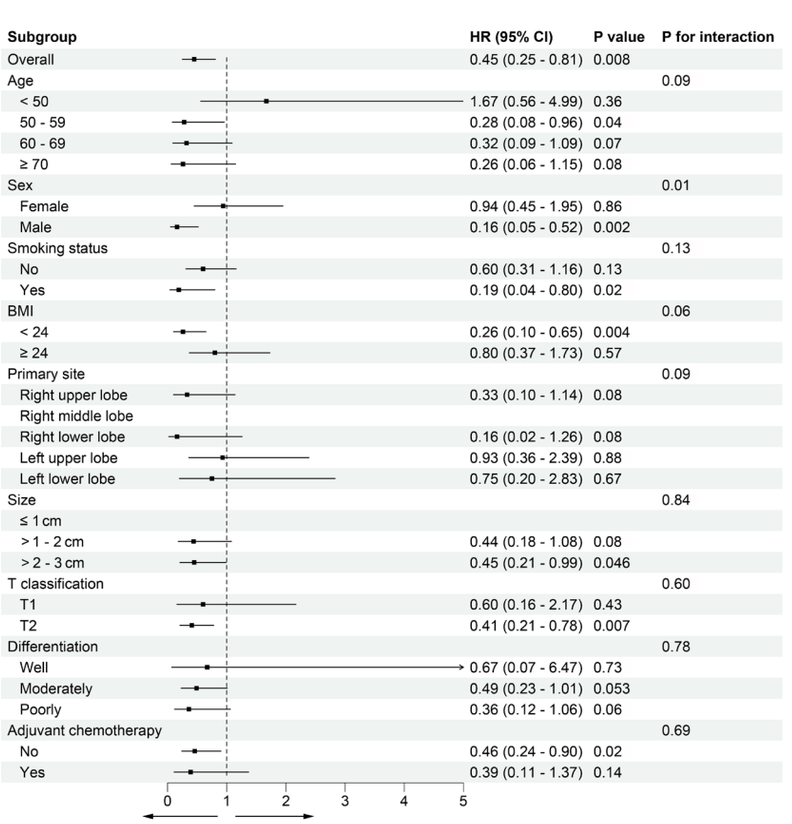

Figure S1 Subgroup analysis of the PFS of the matched patients. In certain subgroups the HR could not be evaluated because all patients in 8LND$^+$ group were still alive until the last follow-up. HR, hazard ratio; CI, confidence interval; BMI, body mass index; 8LND, station 8 lymph node dissection; PFS, progression-free survival.

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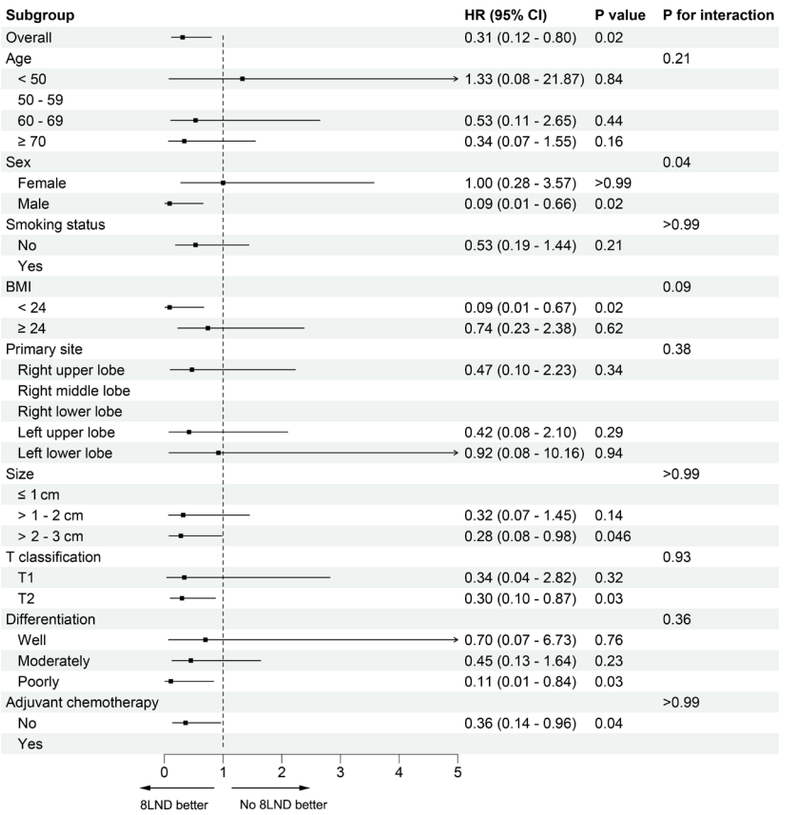

Figure S2 Subgroup analysis of the OS of the matched patients. In certain subgroups the HR could not be evaluated because all patients in 8LND$^+$ group were still alive until the last follow-up. HR, hazard ratio; CI, confidence interval; BMI, body mass index; 8LND, station 8 lymph node dissection; OS, overall survival.

Table S3 Sensitivity analysis: the effect of 8LND on the prognosis after excluding patients of certain subgroup from the matched patients

Excluded subgroup	PFS		OS	
	HR (95% CI)	P value	HR (95% CI)	P value
Excluding patients whose age <50 years	0.29 (0.14–0.61)	0.001	0.26 (0.09–0.75)	0.01
Excluding patients whose age 50–59 years	0.54 (0.27–1.06)	0.07	0.48 (0.18–1.31)	0.15
Excluding patients whose age 60–69 years	0.51 (0.26–0.99)	0.048	0.24 (0.07–0.82)	0.02
Excluding patients whose age ≥70 years	0.51 (0.27–0.96)	0.04	0.28 (0.08–0.97)	0.045
Excluding female patients	0.16 (0.05–0.52)	0.002	0.09 (0.01–0.66)	0.02
Excluding male patients	0.94 (0.45–1.95)	0.86	1.00 (0.28–3.57)	>0.99
Excluding non-smoking patients	0.19 (0.04–0.80)	0.02	0 (0–Inf)	>0.99
Excluding smoking patients	0.6 (0.31–1.16)	0.13	0.53 (0.19–1.44)	0.21
Excluding patients whose BMI <24 kg/m^2	0.8 (0.37–1.73)	0.57	0.74 (0.23–2.38)	0.62
Excluding patients whose BMI ≥24 kg/m^2	0.26 (0.10–0.65)	0.004	0.09 (0.01–0.67)	0.02
Excluding patients with a tumor in the right upper lobe	0.51 (0.26–0.99)	0.047	0.26 (0.08–0.87)	0.03
Excluding patients with a tumor in the right middle lobe	0.52 (0.28–0.94)	0.03	0.38 (0.14–1.02)	0.06
Excluding patients with a tumor in the right lower lobe	0.53 (0.28–0.98)	0.04	0.38 (0.14–1.02)	0.054
Excluding patients with a tumor in the left upper lobe	0.29 (0.13–0.65)	0.003	0.25 (0.07–0.84)	0.03
Excluding patients with a tumor in the left lower lobe	0.41 (0.21–0.78)	0.007	0.26 (0.09–0.76)	0.01
Excluding patients whose tumor ≤1 cm	0.45 (0.25–0.81)	0.007	0.3 (0.11–0.77)	0.01
Excluding patients whose tumor >1–2 cm	0.46 (0.21–1)	0.049	0.3 (0.09–1.04)	0.06
Excluding patients whose tumor >2–3 cm	0.44 (0.18–1.08)	0.07	0.34 (0.07–1.53)	0.16
Excluding patients whose tumor T classification was T1	0.41 (0.21–0.78)	0.007	0.3 (0.1–0.87)	0.03
Excluding patients whose tumor T classification was T2	0.6 (0.16–2.17)	0.43	0.34 (0.04–2.82)	0.32
Excluding patients whose tumor was well differentiated	0.43 (0.24–0.8)	0.007	0.27 (0.09–0.79)	0.02
Excluding patients whose tumor was moderately differentiated	0.43 (0.16–1.13)	0.09	0.2 (0.05–0.89)	0.03
Excluding patients whose tumor was poorly differentiated	0.5 (0.25–1)	0.049	0.48 (0.16–1.47)	0.20

0 (0–Inf) indicated that the HR could not be evaluated because all patients in 8LND$^+$ group were still alive until the last follow-up. 8LND, station 8 lymph node dissection; PFS, progression-free survival; OS, overall survival; HR, hazard ratio; CI, confidence interval; BMI, body mass index.

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