Table SI. Surgical results.

Surgical results	Surgical group (n=39)
Resection margin (%)	
R0	38 (97.4)
R1	1 (2.6)
Surgical approach (%)	
Open	8 (20.5)
Minimally invasive	31 (79.5)
No. of lymph nodes harvested, median (range)	15 (4-50)
Operation time, median (range), min	210 (133-365)
Blood loss, median (range), ml	80 (10-500)
Postoperative hospital stays, median (range), days	10 (7-42)
Postoperative complications	
Pulmonary infection	11 (28.2)
Anastomotic leakage	2 (5.1)
Gastric emptying disorder	1 (2.6)
Thoracic infection	1 (2.6)
Respiratory failure	1 (2.6)
Neoadjuvant therapy	
Immunochemotherapy	4 (10.3)
Chemotherapy	4 (10.3)
Not received	31 (79.4)
Adjuvant therapy (%)	
Radiochemotherapy + immunotherapy	2 (5.1)
Immunochemotherapy	1 (2.6)
Radiochemotherapy	2 (5.1)
Chemotherapy	9 (23.1)
Not received	25 (64.1)

Table SII. Comparative analysis between PD-L1 and BRAF V600E negative and positive groups.

Characteristic	PD-L1(-) (n=33)	PD-L1 (+) (n=6)	P-value	BRAF V600E (-) (n=34)	BRAF V600E (+) (n=5)	P-value
Age, years			0.081			>0.999
≤65	13 (39.4)	0		11 (32.4)	2 (40.0)	
>65	20 (60.6)	6 (100.0)		23 (67.6)	3 (60.0)	
BMI			0.645			0.299
≤24	22 (66.7)	5 (83.3)		22 (64.7)	5 (100.0)	
>24	11 (33.3)	1 (16.7)		12 (35.3)	0	
Sex			0.380			>0.999
Female	10 (30.3)	3 (50.0)		11 (32.4)	2 (40.0)	
Male	23 (69.7)	3 (50.0)		23 (67.6)	3 (60.0)	
Smoking			1.000			>0.999
No	17 (51.5)	3 (50.0)		17 (50.0)	3 (60.0)	
Yes	16 (48.5)	3 (50.0)		17 (50.0)	2 (40.0)	
Drinking			0.380			>0.999
No	23 (69.7)	3 (50.0)		23 (67.6)	3 (60.0)	
Yes	10 (30.3)	3 (50.0)		11 (32.4)	2 (40.0)	
Tumor location			0.693			0.599
Upper	2 (6.1)	0		2 (5.9)	0	
Middle	14 (42.4)	3 (50.0)		14 (41.2)	3 (60.0)	
Lower	17 (51.5)	3 (50.0)		18 (52.9)	2 (40.0)	
Symptom			0.034			0.511
Dysphagia	21 (63.6)	1 (16.7)		18 (52.9)	4 (80.0)	
Subxiphoid pain	8 (24.2)	3 (50.0)		10 (29.4)	1 (20.0)	
Dysphagia with pain	1 (3.0)	2 (33.3)		3 (8.8)	0	
Medical screening	3 (9.1)	0		3 (8.8)	0	
Disease duration			0.466			0.110
<1 month	9 (27.3)	1 (16.7)		10 (29.4)	0	
1-6 months	21 (63.6)	5 (83.3)		21 (61.8)	5 (100.0)	
>6 months	3 (9.1)	0		3 (8.8)	0	
Clinical T stage			1.000			>0.999
T1/T2	17 (51.5)	3 (50.0)		17 (50.0)	3 (60.0)	
T3/T4	16 (48.5)	3 (50.0)		17 (50.0)	2 (40.0)	
Clinical N stage			0.636			0.302
N0	25 (75.8)	4 (66.7)		24 (70.6)	5 (100.0)	
N+	8 (24.2)	2 (33.3)		10 (29.4)	0	
Length of tumor			0.647			0.047
≤3 cm	11 (33.3)	3 (50.0)		10 (29.4)	4 (80.0)	
>3 cm	22 (66.7)	3 (50.0)		24 (70.6)	1 (20.0)	
Thickness of tumor			1.000			0.349
≤10 mm	18 (54.5)	3 (50.0)		17 (50.0)	4 (80.0)	

>10 mm	15 (45.5)	3 (50.0)		17 (50.0)	1 (20.0)	
Ki-67			0.163			0.096
≤55%	7 (21.2)	3 (50.0)		7 (20.6)	3 (60.0)	
>55%	26 (78.8)	3 (50.0)		27 (79.4)	2 (40.0)	

Data presented as n (%). PD-L1, programmed death ligand 1; T, tumor; N, lymph node.

Table SIII. Clinical characteristics of patients with positive PD-L1 or BRAF V600E expression.

No.	Age	Sex	Tumor location	Clinical stage	Pathological stage	Diagnosis	PD-L1	BRAF V600E
1	69	Female	Middle	cT3N1M0	ypT1bN1M0	LCNC	+	-
2	68	Male	Middle	cT2N0M0	pT3N2M0	MiNEC-SCC	+	-
3	73	Male	Middle	cT2N0M0	pT2N0M0	MiNEC-SCC	+	+
4	77	Female	Lower	cT3N0M0	pT3N0M0	MiNEC-SCC	+	+
5	74	Male	Lower	cT3N0M0	pT1aN0M0	SCNC	+	-
6	69	Female	Lower	cT2N1M0	pT3N1M0	SCNC	+	-
7	62	Male	Lower	cT3N0M0	pT2N0M0	SCNC	-	+
8	72	Male	Middle	cT1N0M0	ypT1aN0M0	SCNC	-	+
9	55	Female	Middle	cT1N0M0	pT1aN0M0	MiNEC-SCC	-	+

+, positive; -, negative; MiNEC-SCC, mixed neuroendocrine carcinoma and squamous cell carcinoma; LCNC, large cell neuroendocrine carcinoma; SCNC, small cell neuroendocrine carcinoma; TNM, tumor, lymph node, metastasis; c, clinical; p, pathological; yp, post-neoadjuvant therapy pathological; PD-L1, programmed death ligand 1.

Table SIV. Univariate and multivariate Cox regression analysis in the surgical cohort.

Characteristic	OS				PFS			
	Univariate analysis		Multivariate analysis		Univariate analysis		Multivariate analysis	
	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value
Clinical N stage								
N0								
N1-3	1.146 (0.230, 5.708)	0.868	1.083 (0.198, 5.942)	0.927	0.635 (0.183, 2.201)	0.474	0.665 (0.172, 2.574)	0.554
Tumor size and length								
Thickness ≤1 cm or length ≤3 cm								
	0.950 (0.226, 3.998)	0.945	0.603 (0.127, 2.864)	0.525	0.849 (0.318, 2.266)	0.743	0.665 (0.220,2.007)	0.469
Thickness>1cm and length >3 cm								
Adjuvant therapy								
No								
Yes	0.149 (0.018, 1.232)	0.077	0.131 (0.015, 1.130)	0.065	0.299 (0.104, 0.865)	0.026	0.252 (0.081, 0.781)	0.017

N, lymph node; OS, overall survival; PFS, progression-free survival; HR, hazard ratio; CI, confidence interval.