

**Table S1** Regression analysis of the risk factors for adverse surgical outcomes

Variable	Regression analysis		
	OR	95% CI	P value
Age, years	1.006	0.976–1.037	0.699
Gender			
Male	Reference		0.262
Female	0.649	0.305–1.383	
Location of the tumor			
Anterior	Reference		
Middle	1.830	0.197–17.032	0.595
Posterior	0.654	0.239–1.787	0.407
Pathologic type			
Thymoma	Reference		
Benign cyst	0.734	0.304–1.774	0.493
Neurogenic tumor	0.197	0.024–1.608	0.129
Thymic hyperplasia	1.525	0.282–8.245	0.624
Teratoma	0.871	0.172–4.428	0.868
Other	0.871	0.219–3.472	0.845
Myasthenia			
No	Reference		
Yes	1.587	0.179–14.041	0.678
Surgical approach			
Tri-VATS	Reference		
Uni-VATS	1.004	0.356–2.829	0.994
RATS	0.602	0.198–1.833	0.372
Diameter of tumor	1.223	1.024–1.460	0.026

CI, confidence interval; OR, odds ratio; RATS, robot-assisted thoracic surgery; Tri-VATS, triportal video-assisted thoracoscopic, Uni-VATS, uniportal video-assisted thoracoscopic.

**Table S2** Clinicopathological characteristics of the study population after PSM

Characteristics	Tri-VATS (n=40)	Uni-VATS (n=40)	P value	VATS group (n=49)	RATS group (n=49)	P value
Age, mean $\pm$ SD, years	51.28 $\pm$ 12.09	51.05 $\pm$ 12.12	0.934	50.73 $\pm$ 12.95	51.04 $\pm$ 12.27	0.905
Diameter, mediate (min, max), cm	2.3 (1.0, 7.0)	2.4 (1.2, 7.2)	0.272	2.6 (1.0, 7.0)	2.5 (0.8, 7.5)	0.935
Gender, n (%)			0.654			0.840
Male	20 (50.0)	18 (45.0)		25 (51.0)	24 (49.0)	
Female	20 (50.0)	22 (55.0)		24 (49.0)	25 (51.0)	
Location, n (%)			0.233			0.288
Anterior	26 (65.0)	22 (55.0)		38 (77.6)	39 (79.6)	
Middle	0 (0.0)	3 (7.5)		0 (0.0)	2 (4.1)	
Posterior	14 (35.0)	15 (37.5)		11 (22.4)	8 (16.3)	
Myasthenia, n (%)			1.000			1.000
Yes	0 (0.0)	0 (0.0)		1 (2.0)	1 (2.0)	
No	40 (100.0)	40 (100.0)		48 (98.0)	48 (98.0)	
Pathologic type, n (%)			0.361			0.744
Thymoma	8 (20.0)	4 (10.0)		14 (28.6)	11 (22.4)	
Benign cyst	15 (37.5)	21 (52.5)		22 (44.9)	26 (53.1)	
Neurogenic tumor	8 (20.0)	7 (17.5)		7 (14.3)	4 (8.2)	
Thymic hyperplasia	3 (7.5)	0 (0.0)		3 (6.1)	2 (4.1)	
Teratoma	2 (5.0)	2 (5.0)		1 (2.0)	2 (4.1)	
Other	4 (10.0)	6 (15.0)		2 (4.1)	4 (8.2)	

CM, centimeter; RATS, robot-assisted thoracic surgery; SD, standard deviation; Tri-VATS, triportal video-assisted thoracoscopic, Uni-VATS, uniportal video-assisted thoracoscopic.

**Table S3** Regression analysis of the risk factors for adverse surgical outcomes after propensity score-matched analysis between the VATS group and the RATS group

Variable	Regression analysis		
	OR	95% CI	P value
Age	0.979	0.934–1.027	0.382
Gender			
Male	Reference		1.000
Female	1.000	0.299–3.347	
Location of the tumor			
Anterior	Reference		
Middle	0.001	0.001–N/A	0.999
Posterior	0.333	0.040–2.756	0.308
Pathologic type			
Thymoma	Reference		
Benign cyst	1.048	0.239–4.597	0.951
Neurogenic tumor	0.001	0.001–N/A	0.999
Thymic hyperplasia	1.833	0.150–22.366	0.635
Teratoma	3.667	0.250–53.827	0.343
Other	1.467	0.125–17.213	0.761
Surgical approach			
VATS	Reference		
RATS	0.456	0.128–1.626	0.226
Diameter of tumor	1.350	0.947–1.925	0.097

CI, confidence interval; OR, odds ratio; RATS, robot-assisted thoracic surgery; Tri-VATS, triportal video-assisted thoracoscopic, Uni-VATS, uniportal video-assisted thoracoscopic; N/A, not applicable.

**Table S4** Regression analysis of the risk factors for adverse surgical outcomes after propensity score-matched analysis between the tri-VATS group and the uni-VATS group

Variable	Regression analysis		
	OR	95% CI	P value
Age	0.998	0.930–1.072	0.962
Gender			
Male	Reference		0.233
Female	2.889	0.505–16.540	
Location of the tumor			
Anterior	Reference		
Middle	0.343	0.004–29.007	0.637
Posterior	4.540	0.565–36.500	0.155
Pathologic type			
Thymoma	Reference		
Benign cyst	0.206	0.022–1.940	0.168
Neurogenic tumor	0.064	0.003–1.407	0.081
Thymic hyperplasia	3.376	0.143–79.720	0.451
Teratoma	2.126	0.073–61.666	0.661
Other	0.347	0.023–5.138	0.442
Surgical approach			
Tri-VATS	Reference		
Uni-VATS	0.673	0.194–2.333	0.533
Diameter of tumor	1.693	1.158–2.475	0.007

CI, confidence interval; OR, odds ratio; RATS, robot-assisted thoracic surgery; Tri-VATS, triportal video-assisted thoracoscopic, Uni-VATS, uniportal video-assisted thoracoscopic.