

Table S1 Perioperative characteristics of patients who underwent primary tumor resection (n=47)

Characteristic	Category	Value
Reason for surgery	Consolidative	19
	Palliative	4
	Diagnosis	24
Extent of resection	Bilobectomy	1
	Lobectomy	18
	Segmentectomy	3
	Partial resection	25
Extent of lymph node dissection	None	25
	Hilar	6
	Mediastinal	16
Combined resection	Yes	5
	No	42
Surgical approach	Open thoracotomy	23
	Thoracoscopic approach	23
	Robot-assisted thoracic surgery	1
Operative time, minutes	Median (range)	135 (46-499)
Blood loss, mL	Median (range)	20.0 (0-835)
Intraoperative complications	Diffuse bleeding requiring transfusion	2
Postoperative complication	Prolonged air leakage	4
	Pneumonia	1
Length of postoperative hospital stay, days	Median (range)	10.0 (5-28)
Interval from surgery to the initiation or resumption of systemic anticancer therapy, days	Median (range)	42.0 (5-727)

Table S2 M1 factor details of stage IVA NSCLC patients (n=145)

Characteristics	Resected (n=47)	Non-resected (n=98)	P value
Contralateral pulmonary metastasis	11 (23.4)	31 (31.6)	0.335
Pleural dissemination	22 (46.8)	35 (35.7)	0.210
Pleural effusion	8 (17.0)	41 (41.8)	0.003
Pericardial effusion	0 (0.0)	4 (4.1)	0.305
Brain	5 (10.6)	5 (5.1)	0.294
Liver	0 (0.0)	1 (1.0)	>0.99
Adrenal gland	3 (6.4)	2 (2.0)	0.329
Bone	8 (17.0)	13 (13.3)	0.616
Distant lymph node	1 (2.1)	4 (4.1)	>0.99
Soft tissue	2 (4.3)	7 (7.1)	0.718
Others	0 (0.0)	1 (1.0)	>0.99

Table S3 M1 factor details before and after IPTW adjustment

Clinical factors		Pre-IPTW			With IPTW		
		Resected (N=45)	Non-resected (N=73)	P value	Resected (N=137.2)	Non-resected (N=111.9)	P value
1a	Contralateral pulmonary metastasis	10 (37.0)	17 (38.6)	>0.99	29.2 (50.3)	25.0 (36.5)	0.304
	Pleural dissemination	19 (70.4)	20 (45.5)	0.071	35.1 (60.5)	33.9 (49.6)	0.435
	Pleural effusion	6 (22.2)	19 (43.2)	0.124	10.4 (18.0)	32.6 (47.7)	0.015
	Pericardial effusion	0 (0.0)	3 (6.8)	0.436	0.0 (0.0)	4.0 (5.8)	0.119
1b	Brain	4 (22.2)	5 (17.2)	0.968	53.4 (67.4)	7.2 (16.5)	0.008
	Liver	0 (0.0)	1 (3.4)	>0.99	0.0 (0.0)	1.3 (2.9)	0.189
	Adrenal gland	3 (16.7)	1 (3.4)	0.298	9.2 (11.6)	1.2 (2.9)	0.226
	Bone	8 (44.4)	11 (37.9)	0.891	12.1 (15.3)	16.4 (37.7)	0.126
	Distant lymph node	1 (5.6)	4 (13.8)	0.686	1.8 (2.2)	5.4 (12.3)	0.111
	Soft tissue	2 (11.1)	6 (20.7)	0.653	2.7 (3.4)	7.0 (16.0)	0.065
	Others	0 (0.0)	1 (3.4)	>0.99	0.0 (0.0)	5.1 (11.7)	0.139

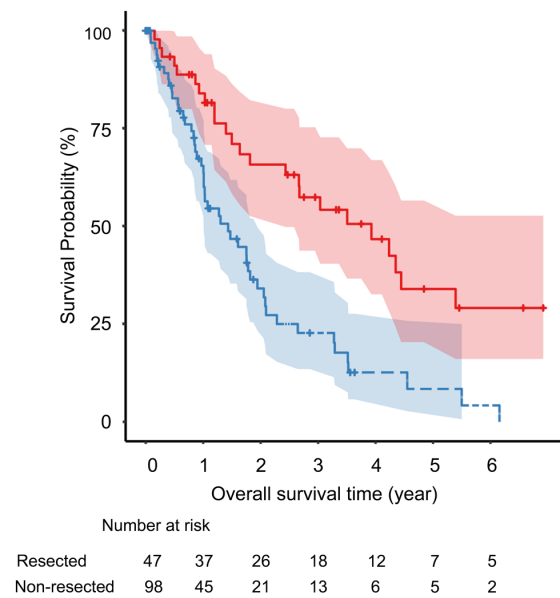


Figure S1 Kaplan-Meier overall survival curves for entire initial cohort stratified by surgical resection status before propensity score-based selection. Solid line indicates primary tumor resection; dashed line indicates no resection. Shaded areas represent 95% confidence intervals (CI).

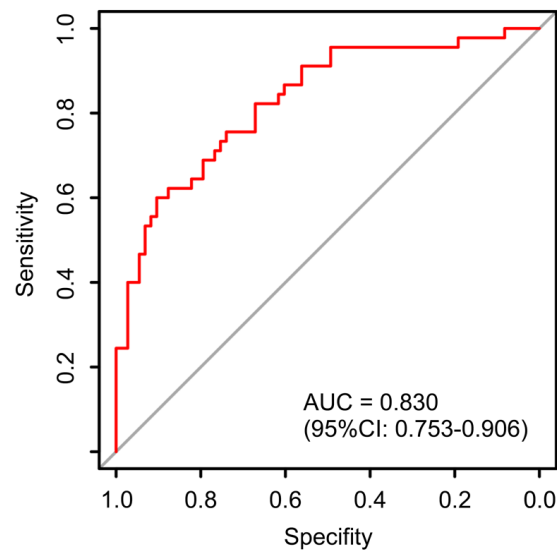


Figure S2 Receiver operating characteristic (ROC) curve demonstrating discriminative ability of propensity score model. Area under the curve (AUC) is shown.

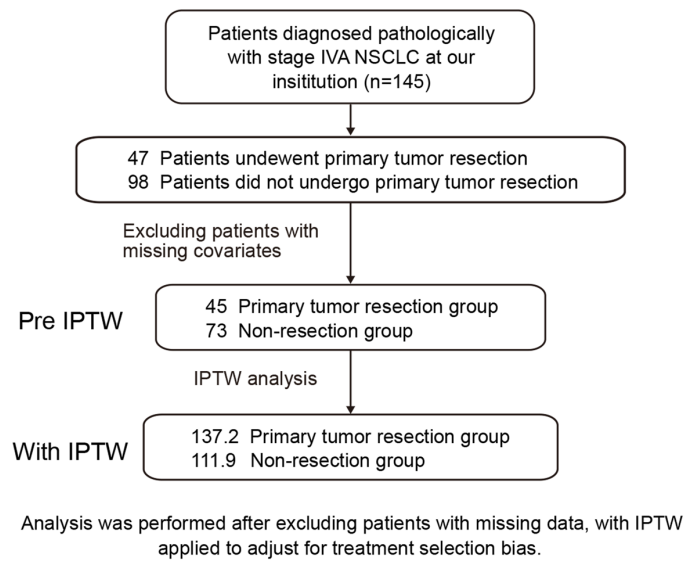


Figure S3 Study flow diagram illustrating patient selection for the final analysis.

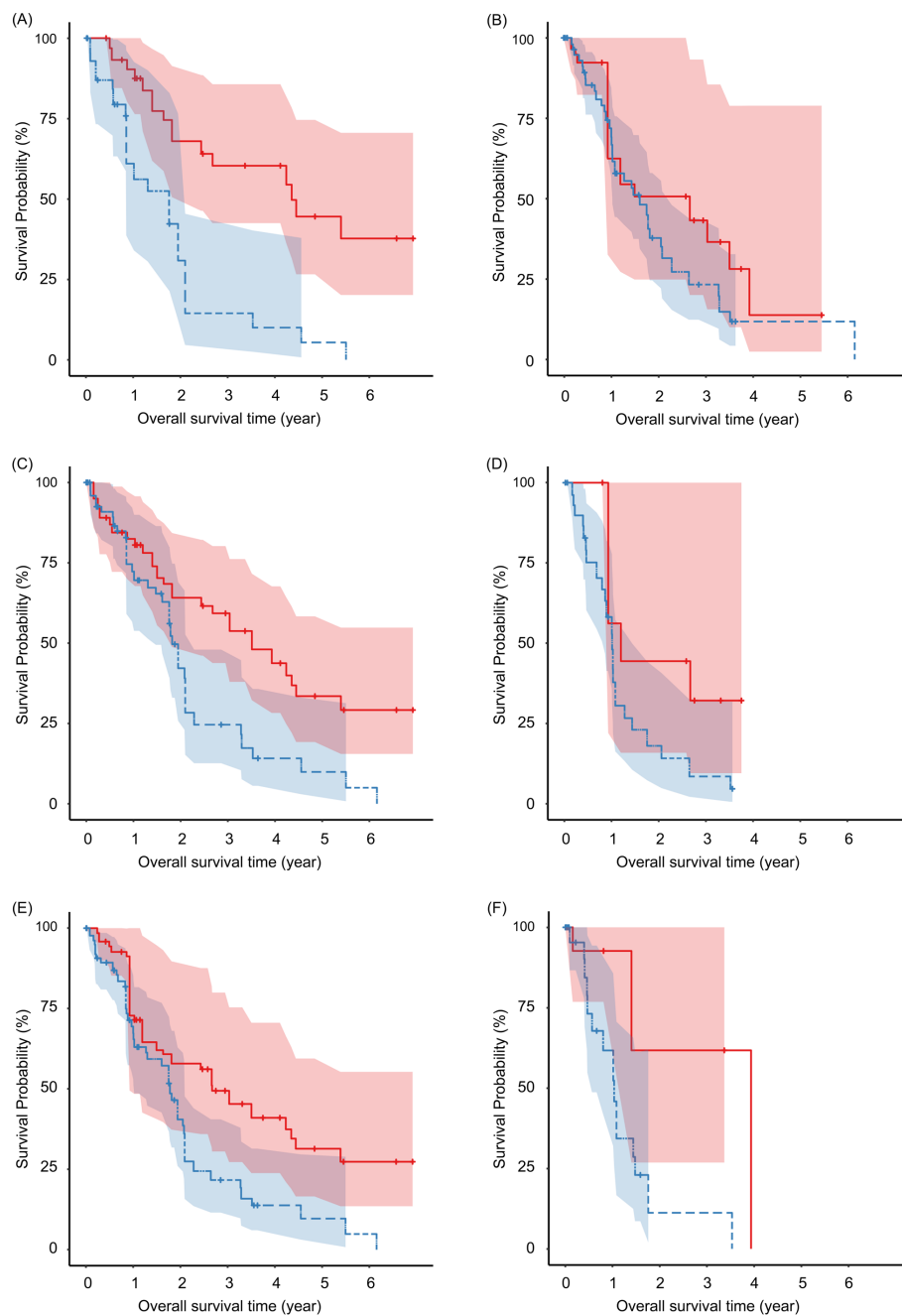


Figure S4 Kaplan-Meier overall survival curves for inverse probability of treatment weighting (IPTW)-adjusted subgroups, stratified by surgical resection status. Solid lines indicate patients with primary tumor resection; dashed lines indicate patients without primary tumor resection. (A,B) T stage (T1-2 vs. T3-4); (C,D) Primary tumor size (≤ 5 vs. > 5 cm); (E,F) N stage (N0-2 vs. N3). Shaded areas represent 95% confidence intervals (CI).