

Figure S1 A nomogram prediction model of risk factors for prolonged air leak after thoracoscopic surgery. (A) Nomogram prediction model; (B) ROC curve of prediction model; (C) calibration curve of prediction model; (D) DCA curve of prediction model. BMI, body mass index; ROC, receiver operating characteristic; DCA, decision curve analysis.

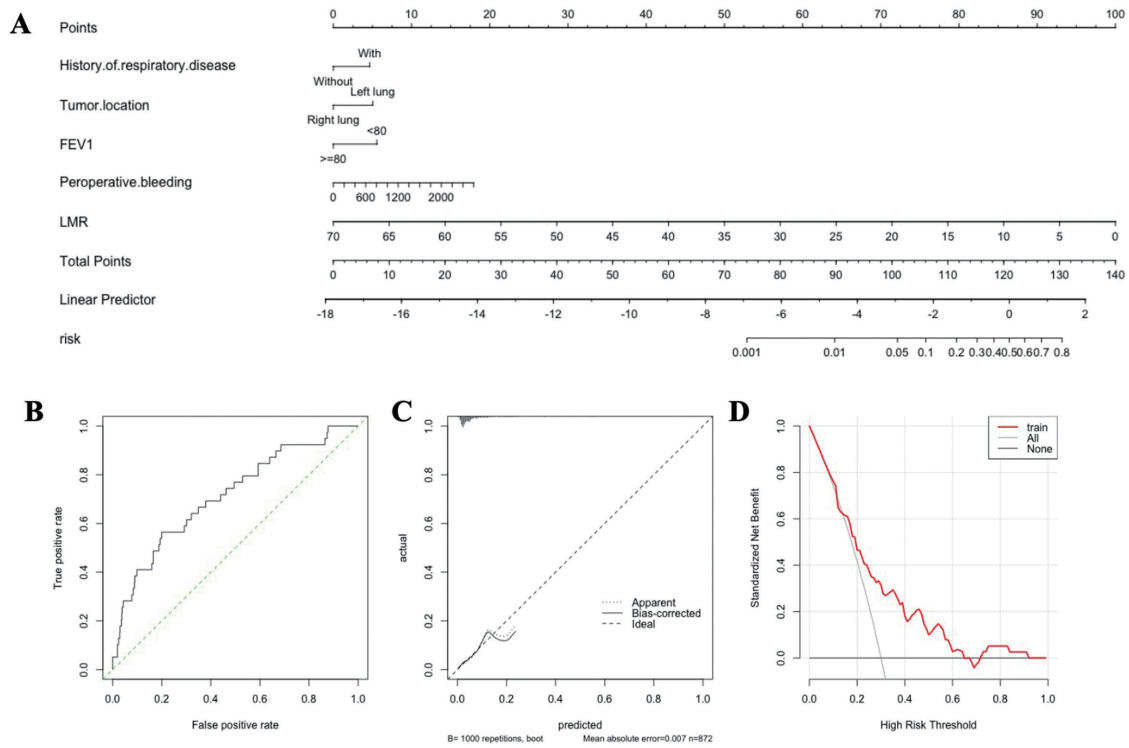


Figure S2 A nomogram prediction model of risk factors for pulmonary infection after thoracoscopic surgery. (A) Nomogram prediction model; (B) ROC curve of prediction model; (C) Calibration curve of prediction model; (D) DCA curve of prediction model. FEV1, forced expiratory volume in the first second; LMR, lymphocyte/monocyte ratio; ROC, receiver operating characteristic; DCA, decision curve analysis.

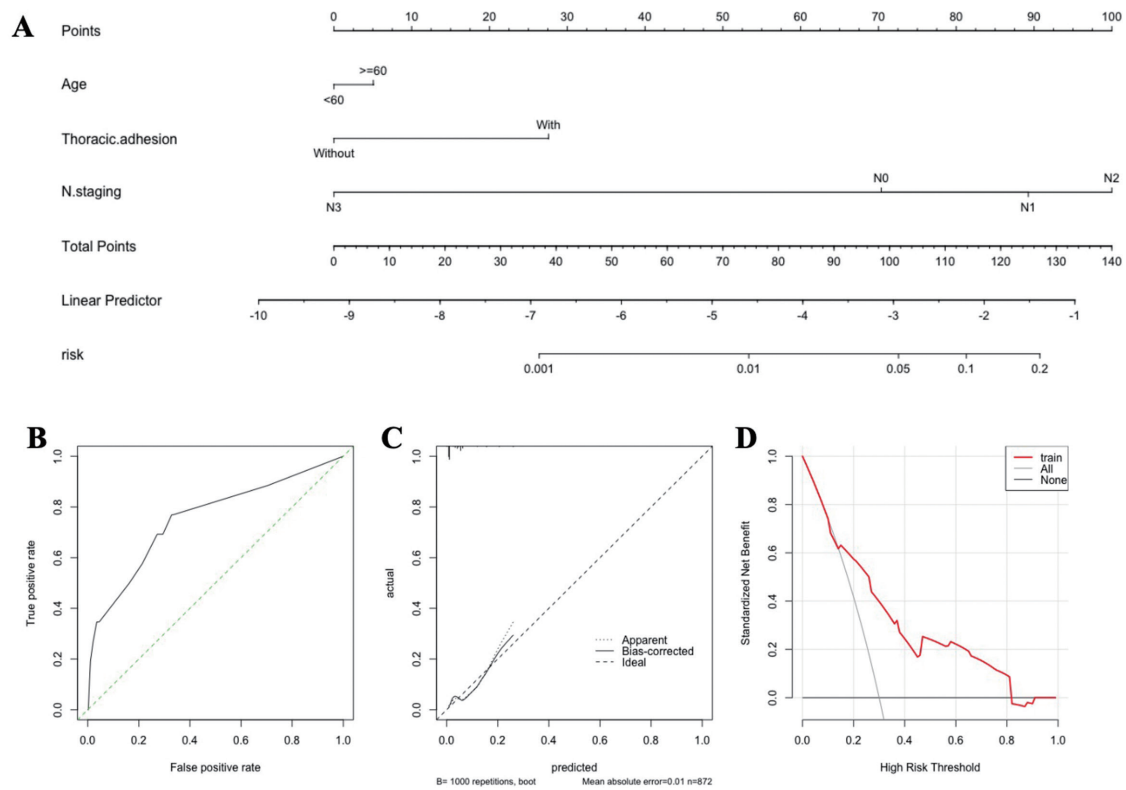


Figure S3 A nomogram prediction model of risk factors for pleural effusion after thoracoscopic surgery. (A) Nomogram prediction model; (B) ROC curve of prediction model; (C) calibration curve of prediction model; (D) DCA curve of prediction model. ROC, receiver operating characteristic; DCA, decision curve analysis.

Table S1 Relationship between patient characteristics or surgical factors and prolonged air leak after surgery

Characteristic	Prolonged air leak		P value
	No	Yes	
Age (years)	62 [55–67]	63 [59–68]	0.066
Gender			<0.001
Male	346 (42.7)	50 (82.0)	
Female	465 (57.3)	11 (18.0)	
Smoking history			<0.001
No	581 (71.6)	22 (36.1)	
Yes	230 (28.4)	39 (63.9)	
History of respiratory disease			<0.001
No	631 (77.8)	29 (47.5)	
Yes	180 (22.2)	32 (52.5)	
ECOG PS score			0.087
0–1	664 (81.9)	44 (72.1)	
≥2	147 (18.1)	17 (27.9)	
BMI (kg/m ²)			0.003
<18.5	17 (2.1)	5 (8.2)	
18.5–23.9	324 (40.0)	30 (49.2)	
≥24	470 (58.0)	26 (42.6)	
Tumor location			0.788
Left lung	337 (41.6)	24 (39.3)	
Right lung	474 (58.4)	37 (60.7)	
Type of surgical procedure			<0.001
Segmentectomy	291 (35.9)	5 (8.2)	
Pulmonary lobectomy	520 (64.1)	56 (91.8)	
FVC (%)			0.372
<80	78 (9.6)	8 (13.1)	
≥80	733 (90.4)	53 (86.9)	
FEV ₁ (%)			0.001
<80	141 (17.4)	22 (36.1)	
≥80	670 (82.6)	39 (63.9)	
FEV ₁ /FVC (%)			0.003
<70	134 (16.5)	20 (32.8)	
≥70	677 (83.5)	41 (67.2)	
N staging			0.017
N ₀	681 (84.0)	44 (72.1)	
N ₁	47 (5.8)	9 (14.8)	
N ₂	80 (9.9)	7 (11.5)	
N ₃	3 (0.4)	1 (1.6)	
Thoracic adhesion			<0.001
No	638 (78.7)	33 (54.1)	
Yes	173 (21.3)	28 (45.9)	
Diameter of tumor (cm)	1.5 [1.0–2.3]	2.0 [1.4–3.0]	0.001
LN _s (number)	9 [5–14]	12 [9–16]	0.001
Time of operation (min)	130 [90–180]	150 [106–240]	0.004
Peroperative bleeding (mL)	20 [10–50]	30 [20–100]	<0.001
LMR	4.39 [3.31–5.71]	3.68 [2.68–5.27]	0.010

Data are presented as median [interquartile range] or number (%). ECOG PS, Eastern Cooperative Oncology Group Performance Status; BMI, body mass index; FVC, forced vital capacity; FEV₁, forced expiratory volume in the first second; LN_s, number of lymph nodes; LMR, lymphocyte/monocyte ratio.

Table S2 Relationship between patient characteristics or surgical factors and postoperative pulmonary infection

Characteristic	Pulmonary infection		P value
	No	Yes	
Age (years)	62 [55–67]	63 [60–66]	0.753
Gender			0.100
Male	373 (44.8)	23 (59.0)	
Female	460 (55.2)	16 (41.0)	
Smoking history			0.109
No	581 (69.7)	22 (56.4)	
Yes	252 (30.3)	17 (43.6)	
History of respiratory disease			0.003
No	639 (76.7)	21 (53.8)	
Yes	194 (23.3)	18 (46.2)	
ECOG PS score			>0.99
0–1	676 (81.2)	32 (82.1)	
≥2	157 (18.8)	7 (17.9)	
BMI (kg/m ²)			0.509
<18.5	20 (2.4)	2 (5.1)	
18.5–23.9	340 (40.8)	14 (35.9)	
≥24	473 (56.8)	23 (59.0)	
Tumor location			0.030
Left lung	338 (40.6)	23 (59.0)	
Right lung	495 (59.4)	16 (41.0)	
Type of surgical procedure			0.732
Segmentectomy	284 (34.1)	12 (30.8)	
Pulmonary lobectomy	549 (65.9)	27 (69.2)	
FVC (%)			0.264
<80	80 (9.6)	6 (15.4)	
≥80	753 (90.4)	33 (84.6)	
FEV ₁ (%)			0.003
<80	148 (17.8)	15 (38.5)	
≥80	685 (82.2)	24 (61.5)	
FEV ₁ /FVC (%)			0.196
<70	144 (17.3)	10 (25.6)	
≥70	689 (82.7)	29 (74.4)	
N staging			0.226
N ₀	697 (83.7)	0	
N ₁	52 (6.2)	28 (71.8)	
N ₂	80 (9.6)	4 (10.3)	
N ₃	4 (0.5)	7 (17.9)	
Thoracic adhesion			0.077
No	646 (77.6)	25 (64.1)	
Yes	187 (22.4)	14 (35.9)	
Diameter of tumor (cm)	1.5 [1.0–2.4]	1.5 [1.0–4.2]	0.435
LN _s (number)	9 [5–15]	8 [5–11]	0.359
Time of operation (min)	132 [90–180]	160 [103–210]	0.061
Peroperative bleeding (mL)	20 [10–50]	20 [20–100]	0.035
LMR	4.38 [3.30–5.73]	3.67 [2.91–5.13]	0.014

Data are presented as median [interquartile range] or number (%). ECOG PS, Eastern Cooperative Oncology Group Performance Status; BMI, body mass index; FVC, forced vital capacity; FEV₁, forced expiratory volume in the first second; LN_s, lymph nodes; LMR, lymphocyte/monocyte ratio.

Table S3 The relationship between patient characteristics or surgical factors and postoperative pleural effusion

Characteristic	Pleural effusion		P value
	No	Yes	
Age (years)	62 [55–67]	61 [56–66]	0.696
Gender			0.045
Male	379 (44.8)	17 (65.4)	
Female	467 (55.2)	9 (34.6)	
Smoking history			0.129
No	589 (69.6)	14 (53.8)	
Yes	257 (30.4)	12 (46.2)	
History of respiratory disease			0.017
No	646 (76.4)	14 (53.8)	
Yes	200 (23.6)	12 (46.2)	
ECOG PS score			0.201
0–1	684 (80.9)	24 (92.3)	
≥2	162 (19.1)	2 (7.7)	
BMI (kg/m ²)			0.207
<18.5	22 (2.6)	0	
18.5 – 23.9	347 (41.0)	7 (26.9)	
≥24	477 (56.4)	19 (73.1)	
Tumor location			>0.99
Left lung	350 (41.4)	10 (38.5)	
Right lung	496 (58.6)	16 (61.5)	
Type of surgical procedure			0.012
Segmentectomy	293 (34.6)	3 (11.5)	
Pulmonary lobectomy	553 (65.4)	23 (88.5)	
FVC (%)			0.314
<80	82 (9.7)	4 (15.4)	
≥80	764 (90.3)	22 (84.6)	
FEV ₁ (%)			0.042
<80	154 (18.2)	9 (34.6)	
≥80	692 (81.8)	17 (65.4)	
FEV ₁ / FVC (%)			0.198
<70	147 (17.4)	7 (26.9)	
≥70	699 (82.6)	19 (73.1)	
N staging			<0.001
N ₀	712 (84.2)	13 (50.0)	
N ₁	52 (6.1)	4 (15.4)	
N ₂	78 (9.2)	9 (34.6)	
N ₃	4 (0.5)	0	
Thoracic adhesion			<0.001
No	661 (78.1)	10 (38.5)	
Yes	185 (21.9)	16 (61.5)	
Diameter of tumor (cm)	1.5 [1.0–2.3]	2.6 [1.4–4.0]	0.002
LN _s (number)	9 [5–14]	11 [8–19]	0.031
Time of operation (min)	133 [90–180]	153 [106–201]	0.235
Peroperative bleeding (mL)	20 [10–50]	35 [20–100]	0.028
LMR	4.38 [3.28–5.70]	3.81 [3.39–4.92]	0.141

Data are presented as median [interquartile range] or number (%). ECOG PS, Eastern Cooperative Oncology Group Performance Status; BMI, body mass index; FVC, forced vital capacity; FEV₁, forced expiratory volume in the first second; LN_s, lymph nodes; LMR, lymphocyte/monocyte ratio