

Online supplemental table 1 (S1–S4)

**Supplemental Table S1: Etiologies of ILD and types of surgery among 700 patients
in this case–control study**

Etiology of ILD or type of surgery		Number (%) of patients
		total
		700 (100)
Etiology of ILD	Idiopathic interstitial pneumonia	416 (59)
	Connective tissue diseases	237 (34)
	Rheumatoid arthritis	105
	Systemic sclerosis	32
	Polymyositis/Dermatomyositis	29
	Antineutrophil cytoplasmic antibody associated vasculitis	11
	Systemic lupus erythematosus	11
	Sjögren syndrome	8
	Multiple	29
	Others	12
	Drug*	15 (2.1)
	Pneumoconiosis	13 (1.9)
	Radiation	12 (1.7)
	Hypersensitivity pneumonitis	7 (1.0)
Type of surgery	Orthopedic	151 (22)
	Lung	140 (20)
	Digestive tract	136 (19)
	Hepato-pancreatic-biliary or splenic	54 (7.7)
	Urinary	46 (6.6)
	Aortic or vascular	43 (6.1)
	Ear, nose, and throat, or oral	39 (5.6)
	Cardiac	27 (3.9)
	Obstetric and gynecologic	18 (2.6)
	Neurosurgery	15 (2.1)
	Breast	9 (1.3)
	Mediastinal	8 (1.1)
	Thyroid	7 (1.0)
	Skin	6 (0.9)
	Others	1 (0.1)

* Four patients with drug-induced ILD also had connective tissue diseases.

ILD, interstitial lung disease.

Supplemental Table S2: Numerical variables used for one-to-four case-control**matching or multiple imputation**

Factor	Total n = 700	AE n = 28	Before matching		After 1:4 matching	
			non-AE n = 672	<i>P</i> [†]	non-AE n = 112	<i>P</i> [†]
Age (years), mean (SD)	70.1 (10.7)	72.4 (10.6)	70.0 (10.7)	0.242	68.6 (11.8)	0.115
Per cent predicted FVC (%), mean (SD)	n = 670 86.3 (18.6)	n = 26 75.5 (17.9)	n = 644 86.8 (18.5)	0.002	n = 107 87.2 (19.4)	0.006
FEV ₁ /FVC, mean (SD)	n = 670 0.76 (0.10)	n = 26 0.77 (0.07)	n = 644 0.76 (0.10)	0.557	n = 107 0.77 (0.10)	0.969
Hb (g/dL), mean (SD)	12.0 (1.9)	11.6 (2.0)	12.0 (1.9)	0.271	12.4 (2.0)	0.044
LD (IU/L), median (IQR)	213 (183–251)	214 (194–261)	213 (183–249)	0.344	211 (180–247)	0.273
CRP (mg/dL), median (IQR)	0.23 (0.08–0.76)	0.41 (0.18–1.95)	0.22 (0.08–0.72)	0.02	0.16 (0.06–0.57)	0.005
KL-6 (U/mL), median (IQR)	n = 497 421 (264–682)	n = 23 799 (358–1147)	n = 474 417 (260–665)	0.01	n = 82 524 (257–802)	0.108
ARISCAT total score, mean (SD)	32 (17)	52 (16)	32 (17)	< 0.001	35 (17)	< 0.001

AE, acute exacerbation; FVC, forced vital capacity; FEV₁, forced expiratory volume in

1 second; Hb, hemoglobin; LD, lactate dehydrogenase; CRP, C-reactive protein;

ARISCAT, Assess Respiratory Risk in Surgical Patients in Catalonia; SD, standard

deviation; IQR, interquartile range.

† All characteristics were compared between cases and controls. Patients with missing

data were excluded. The analyses were conducted using Student's *t*-test or the Mann–

Whitney *U* test.

Supplemental Table S3: Evaluation of multicollinearity using generalized variance-inflation factors

$GVIF^{(1/2df)} > 2$ suggests multicollinearity. No multicollinearity was found in the independent variables included in the multivariable logistic regression model.

	GVIF	$GVIF^{(1/2df)}$
Honeycombing on CT	1.12	1.06
Per cent predicted FVC <80%	1.14	1.07
ARISCAT score category	1.10	1.02

GVIF, generalized variance-inflation factor; df, degrees of freedom; FVC, forced vital capacity; ARISCAT, Assess Respiratory Risk in Surgical Patients in Catalonia.

Supplemental Table S4: H-F-A index

The H-F-A index score was defined as the cumulative total of the following positive predictors: honeycombing on CT (H), per cent predicted forced vital capacity <80% (F), and ARISCAT score \geq 45 (A).

A) Number of patients with ILD for each cumulative total of H-F-A index score

Number of positive predictors (H-F-A index score)	Number of patients n = 700	Number of postoperative AE n = 28	Rate of postoperative AE (%)
0	238	0	0
1	291	7	2.4
2	141	13	9.2
3	30	8	27

ILD, interstitial lung disease; AE, acute exacerbation; CT, computed tomography;

ARISCAT, Assess Respiratory Risk in Surgical Patients in Catalonia.

B) Sensitivity and specificity of each cut-off value in the cumulative H-F-A index score for predicting postoperative acute exacerbation (n = 700)

The Cochran–Mantel–Haenszel test was used to estimate the sensitivity and specificity of each cut-off value in the H-F-A index score.

Cut-off number	Sensitivity (95% CIs)	Specificity (95% CIs)
1	1 (0.82–1.00)	0.35 (0.32–0.39)
2	0.75 (0.55–0.89)	0.78 (0.74–0.81)
3	0.27 (0.12–0.46)	0.97 (0.95–0.98)

CI, confidence interval.