

Online Supplement

Table S1. Association between sputum eosinophils and computed tomography morphology.

Variable (Mean ± SE)	Sputum EOS < 3.0%	Sputum EOS ≥ 3.0%	<i>P</i> value ^b
Radiographic measurements			
Ln (LAA ₋₉₅₀), %	-0.01±0.18	0.33±0.19	0.008 ^a
Exp (LAA _{-950a}), %	0.99	1.39	
Ln (LAA ₋₈₅₆), %	2.99±0.11	3.15±0.11	0.037 ^a
Exp (LAA ₋₈₅₆), %	19.89	23.34	

Data are mean ± standard error (Mean ± SE);

Abbreviations: **COPD**, chronic obstructive pulmonary disease; Ln = natural log; Exp = exponentiation of natural log; **LAA₋₉₅₀**, low-attenuation area of the lung with attenuation values below -950 Hounsfield units; **LAA₋₈₅₆**, low-attenuation area of the lung with attenuation values below -856 Hounsfield units.

^b: Outcomes were adjusted for age, sex, body mass index group, smoking status, pack-years of smoking, family history of respiratory diseases, biofuel exposure, occupational exposure, passive smoke and corticosteroid therapy.

^a: $P < 0.05$.

Table S2. Factors associated with sputum eosinophil Count in spirometry-defined COPD patients according to multivariate logistic regression analysis

	Subject (n)	High sputum eosinophils (n, %)	Crude		Adjusted	
			OR (95% CI)	P value	OR (95% CI)	P value ^b
Sex, n (%)						
Female	45	14 (31.1)	1.00 (Reference)		1.00 (Reference)	
Male	803	299 (37.2)	1.31 (0.69-2.50)	0.407	0.98 (0.40-2.39)	0.959
Age(years)						
<60	179	59 (33.0)	1.00 (Reference)		1.00 (Reference)	
≥60	669	254 (38.0)	1.25 (0.88-1.76)	0.218	1.26 (0.86-1.85)	0.237
Body mass index, kg/m ²				0.844		0.320
<18.5	90	31 (34.4)	1.00 (Reference)		1.00 (Reference)	
18.5-24.9	597	224 (37.5)	1.14 (0.72-1.82)	0.574	1.34 (0.81-2.21)	0.252
≥25.0	159	58 (36.5)	1.09 (0.64-1.88)	0.748	1.57 (0.87-2.83)	0.131
Smoking status				0.001^a		0.002^a
Never smoked	94	28 (29.8)	1.00 (Reference)		1.00 (Reference)	
Former smoking	223	106 (47.5)	2.14 (1.28-3.57)	0.004^a	1.98 (1.01-3.82)	0.048^a
Current smoking	531	179 (33.7)	1.20 (0.74-1.93)	0.457	1.08 (0.56-2.08)	0.814
Family history of respiratory diseases						
No	714	250 (35.0)	1.00 (Reference)		1.00 (Reference)	
Yes	134	63 (47.0)	1.65 (1.14-2.39)	0.008^a	1.72 (1.15-2.57)	0.009^a
Biofuel exposure						
No	549	195 (35.5)	1.00 (Reference)		1.00 (Reference)	
Yes	299	118 (39.5)	1.18 (0.89-1.58)	0.255	1.31 (0.96-1.80)	0.094
Occupational exposure						
No	579	205 (35.4)	1.00 (Reference)		1.00 (Reference)	
Yes	269	108 (40.1)	1.22 (0.91-1.65)	0.183	1.05 (0.76-1.46)	0.750
Passive smoke						
No	558	195 (34.9)	1.00 (Reference)		1.00 (Reference)	
Yes	290	118 (40.7)	1.28 (0.95-1.71)	0.100	1.35 (0.98-1.85)	0.064
Symptoms						
Low	679	235 (34.6)	1.00 (Reference)		1.00 (Reference)	
High	158	73 (46.2)	1.62 (1.14-2.30)	0.006^a	1.55 (1.06-2.26)	0.024^a
Blood eosinophils						
<300cells/ μ L	647	195 (30.1)	1.00 (Reference)		1.00 (Reference)	
≥300 cells/ μ L	201	118 (58.7)	3.30 (2.38-4.57)	<0.001^a	3.51 (2.49-4.96)	<0.001^a

Abbreviations: **COPD**, chronic obstructive pulmonary disease; **OR**, odds ratio; **CI**, confidence interval.

^b: Outcomes were adjusted for age, sex, body mass index group, smoking status, pack-years of smoking, family history of respiratory diseases, biofuel exposure, occupational exposure, passive smoke and corticosteroid therapy.

^a: $P < 0.05$.

Table S3. Clinical characteristics of two groups (induced success and induced failure).

Characteristics	Failure (n=215)	Success (n=895)	P value
Males, n (%)	166 (77.2)	845 (94.4)	<0.001 ^a
Age, years	65.7±8.3	65.1±7.2	0.249
Body mass index, kg/m ²	21.9±3.4	22.2±3.3	0.185
Smoking status, n (%)			<0.001 ^a
Never smoked	61 (28.4)	102 (11.4)	
Former smoking	61 (28.4)	244 (27.3)	
Current smoking	93 (43.3)	549 (61.3)	
Smoking index, pack × years	35.5±32.7	44.8±33.2	<0.001 ^a
History of respiratory diseases, n (%)	30 (14.0)	156 (17.4)	0.140
Passive smoke, n (%)	65 (30.2)	308 (34.4)	0.244
Biomass use, n (%)	72 (33.5)	322 (36.0)	0.493
Occupational exposure, n (%)	63 (29.3)	291 (32.5)	0.364
Comorbidity, n (%)			
Hypertension	40 (18.6)	168 (18.8)	0.955
Diabetes	7 (3.3)	25 (2.8)	0.716
Coronary heart disease	4 (1.9)	31 (3.5)	0.227
mMRC dyspnea scale score	0.52±0.78	0.54±0.75	0.700
CAT score	5.56±5.76	5.60±5.83	0.925
CCQ score	6.18±7.16	7.25±7.45	0.060
Blood eosinophil, cells/μ L	162 (93-299)	180 (110-290)	0.136
Inhaled corticosteroid therapy, n (%)	10 (4.6)	47 (5.3)	0.725

Data are mean ± standard deviation or n (%), or median (interquartile range).

Abbreviations: **mMRC**, modified British medical research council score; **CAT**, COPD assessment test; **CCQ**, clinical COPD questionnaire;

^a: $P < 0.05$.