

e-Table 1 Correlation between tumor location and tumor histology and molecular markers

	Tumor in emphysematous area		P value
	Yes	No	
Overall	162	138	
Tumor histology			0.740
Adenocarcinoma	111(68.5%)	97(70.3%)	
Non-adenocarcinoma	51(31.5%)	41(29.7%)	
EGFR gene			0.465
Wild	120(74.1%)	97(70.3%)	
Mutated	42(25.9%)	41(29.7%)	
KRAS gene			0.420
Wild	142(87.7%)	125(90.6%)	
Mutated	20(12.3%)	13(9.4%)	
ALK gene			<0.001
Wild	161(99.4%)	123(89.1%)	
Rearranged	1(0.6%)	15(10.9%)	

e-Table 2 Correlation between CT-defined emphysema and smoking history in EGFR/ALK wild-type.

	CT-defined emphysema		P value
	Yes	No	
EGFR wild-type (n=531)	217	314	
Smoking history			<0.001
Yes	163(75.1%)	131(41.7%)	
No	54(24.9%)	183(58.3%)	
ALK wild-type (n=775)	284	491	
Smoking history			<0.001
Yes	202(71.1%)	173(35.2%)	
No	82(28.9%)	318(64.8%)	
EGFR/ALK wild-type (n=454)			
Smoking history	201	253	<0.001
Yes	162(80.6%)	121(47.8%)	
No	39(19.4%)	132(52.2%)	

e-Table 3 Correlation between CT-defined emphysema and spirometry

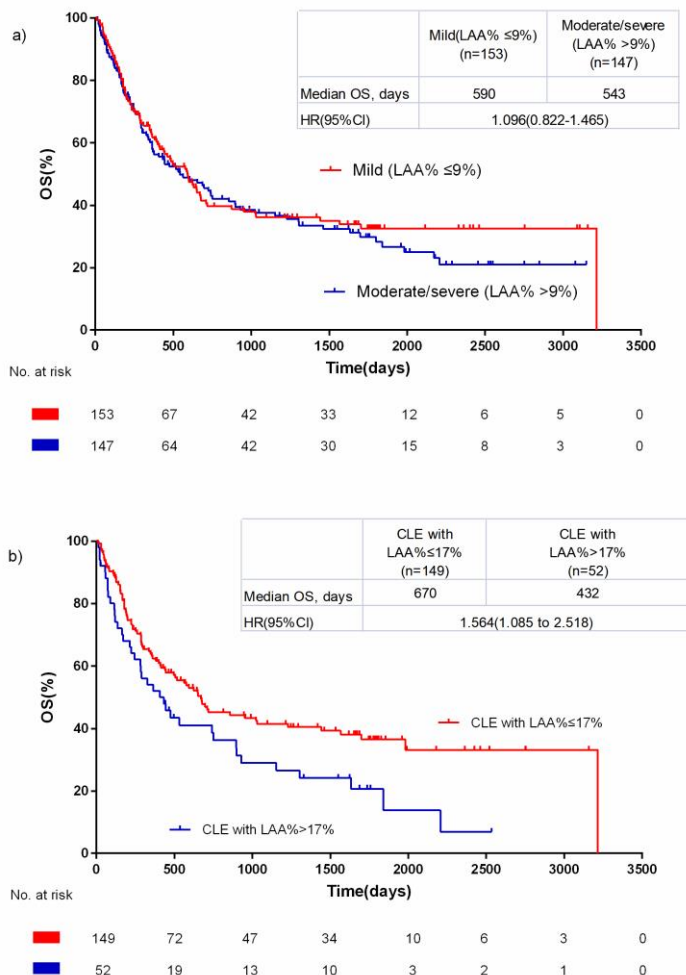
Patient characteristics	Patients	Patients with CT-defined emphysema	Patients without CT-defined emphysema	P value
Overall	493	192	301	
FVC	3.06±0.80	3.13±0.79	3.02±0.81	0.129
FVC pred %	97.8±21.3	91.3±20.5	102.1±20.7	<0.001
FEV1	2.21±0.68	2.13±0.71	2.26±0.66	0.048
FEV1pred%	87.7±24.4	78.6±25.0	93.6±22.2	<0.001
FEV1/FVC				
Median (Range)		71.2(59.9,76.1)	75.8(70.4,80.2)	<0.001
< 70%	157	87 (55.4%)	70(44.6%)	
≥ 70%	336	105(31.3%)	231(68.7%)	
MEV75	75.0(43.7,101.8)	62.4(29.4,97.0)	82.3(52.2,105.9)	<0.001
MEV50	56.0±29.2	47.3±27.5	61.6±28.9	<0.001
MMEF	51.3(33.8,69.7)	43.7(26.5,62.4)	55.9(38.9,74.5)	<0.001
RV	2.12(1.73,2.56)	2.31(1.89,2.77)	2.02(1.66,2.37)	<0.001
RV pred %	101.8(85.5,117.6)	102.2(84.4,117.8)	101.6(86.2,117.4)	0.844
TLC	4.93(4.27,5.82)	5.32(4.58,6.10)	4.76(4.17,5.51)	<0.001
TLC pred %	92.0(79.8,101.3)	88.4(76.5,98.3)	94.0(81.8,101.9)	0.002
RV/TLC	43.9(39.4,50.6)	44.5(40.2,52.0)	43.5(38.8,49.3)	0.165
DLCO SB	6.22(4.88,7.48)	5.71(4.38,6.94)	6.46(5.45,7.75)	<0.001

DLCO SB pred %	80.3(64.6,93.0)	68.7(52.8,82.0)	85.4(74.8,97.6)	<0.001
DLCO/VA	1.39(1.16,1.60)	1.24(1.00,1.51)	1.44(1.28,1.62)	<0.001
DLCO/VA pred %	90.8±20.5	83.0±20.9	95.8±18.5	<0.001
Patients with COPD	160	90	70	
COPD severity				0.023
Mild	39	18(46.2%)	21(53.8%)	
Moderate	89	47(52.8%)	42(47.2%)	
Severe	28	21(75.0%)	7(25.0%)	
Very severe	4	4(100.0%)	0(0.0%)	

e-Figure. 1

a) Kaplan-Meier curves showed that there was no significant difference between mild (LAA% $\leq 9\%$) and moderate-severe group (LAA% $> 9\%$) (median, 590 vs. 543 days; HR 1.096; 95% CI, 0.822 to 1.465; P=0.532).

b) *Kaplan-Meier curves demonstrated that CLE with LAA% $> 17\%$ displayed poorest survival than those CLE with LAA% $\leq 17\%$ (median, 432 vs. 670 days; HR 1.564; 95% CI, 1.085 to 2.518; P=0.020)

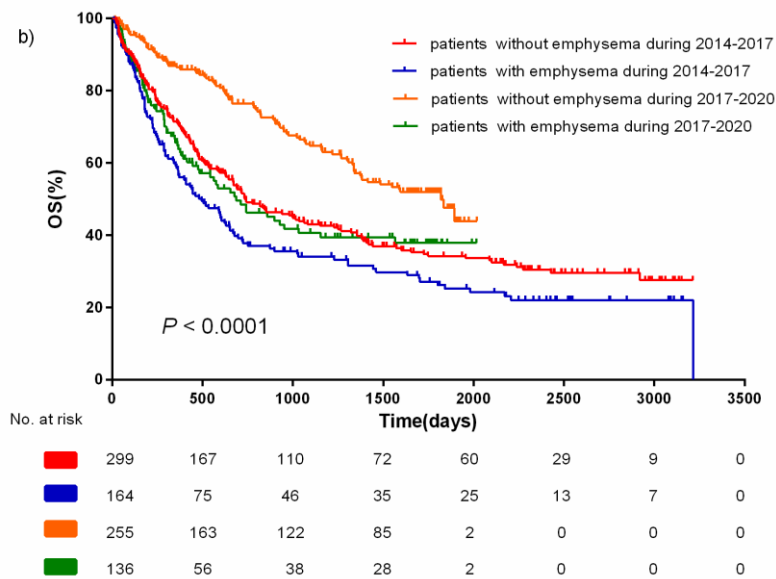
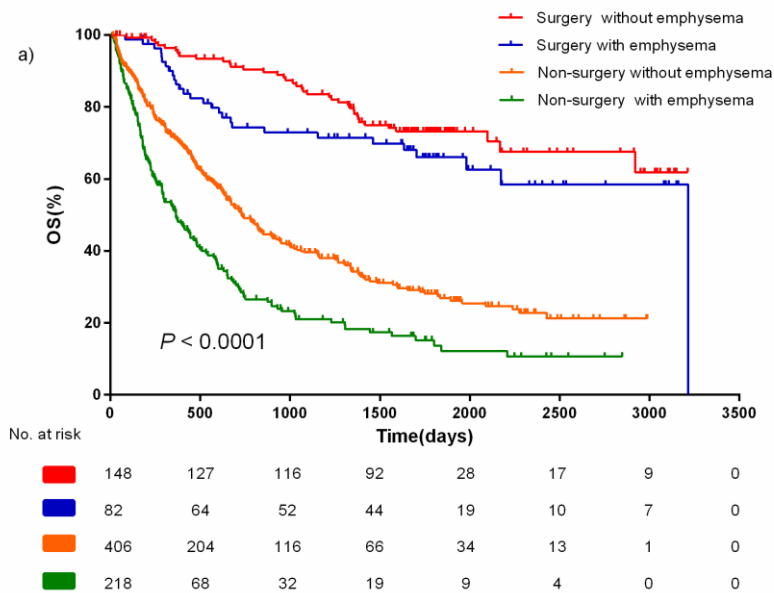


*In order to screen out the patients with the worst prognosis, a new cut-off value (17%) to distinguish different severity was calculated using ROC curve.

e-Figure. 2

a) Kaplan-Meier curves showed OS rate among the surgery and non-surgery groups with different CT-defined emphysema status differed significantly (log-rank $P < 0.001$).

b) Kaplan-Meier curves showed that there were significant differences in the rate of OS among the year of diagnosis groups with different CT-defined emphysema status based on the Log-rank tests (log-rank $P < 0.001$).



e-Figure. 3

a) Kaplan-Meier curves showing male patients had worse OS compared with female.

b) Kaplan-Meier curves showing OS rate among the sex groups with different CT-defined emphysema status differed significantly (log-rank $P < 0.001$).

