Table S1 Inter-observer agreement for radiological characteristics of ASALL

Variables	Reader 1	Reader 2	Disagreement	Kappa (95% CI)	P value
For the cohort (n=43)					
Sides			1 (2.3)	0.937 (0.815–1.000)	<0.001
Left	33 (76.7)	32 (74.4)			
Right	10 (23.3)	11 (25.6)			
Distribution			2 (4.6)	0.918 (0.806–1.000)	<0.001
Middle thoracic aorta	22 (51.2)	24 (55.8)			
Inferior thoracic aorta	17 (39.5)	15 (34.9)			
Abdominal aorta	4 (9.3)	4 (9.3)			
Thrombosis/calcification			4 (9.3)	0.769 (0.555–0.983)	<0.001
Present	11 (25.6)	13 (30.2)			
Absent	32 (74.4)	30 (69.8)			
GGO			2 (4.6)	0.907 (0.782–1.000)	<0.001
Present	22 (51.2)	22 (51.2)			
Absent	21 (48.8)	21 (48.8)			
Septal thickening			2 (4.6)	0.885 (0.730–1.000)	<0.001
Present	32 (74.4)	30 (69.8)			
Absent	11 (25.6)	13 (30.2)			
Lower interlobar artery			3 (6.9)	0.688 (0.358–1.000)	<0.001
Present	37 (86.0)	38 (88.4)			
Absent	6 (14.0)	5 (11.6)			
Draining veins			2 (4.6)	0.878 (0.713–1.000)	<0.001
Left inferior vein	32 (74.4)	32 (74.4)			
Right inferior vein	11 (25.6)	11 (25.6)			
GGO features (n=23)					
Location			1 (4.3)	0.832 (0.514–1.000)	<0.001
Left lower lobe	20 (87.0)	19 (82.6)			
Right lower lobe	3 (13.0)	4 (17.4)			
Distribution for GGO			2 (8.7)	0.842 (0.632–1.000)	<0.001
Peri-systemic artery	14 (60.9)	14 (60.9)			
Peripheral	4 (17.4)	3 (13.0)			
Diffuse	5 (21.7)	6 (26.1)			
Septal thickening features (n=31)					
Location			1 (3.2)	0.890 (0.678–1.000)	<0.001
Left lower lobe	26 (83.9)	25 (80.6)			
Right lower lobe	5 (16.1)	6 (19.4)			
Distribution for septal thickening			2 (6.5)	0.876 (0.709–1.000)	<0.001
Peri-systemic artery	20 (64.5)	20 (64.5)			
Peripheral	4 (12.9)	5 (16.1)			
Diffuse	7 (22.6)	6 (19.4)			

Data are expressed as frequency and percentage in parentheses. The P value represents the difference between the kappa coefficient and 0. ASALL, anomalous systemic arterial supply to the normal basal segments of the lower lobe; CI, confidence interval; GGO, ground glass opacity.

Table S2 Inter-observer reproducibility for abnormal systemic arterial features measurement and CT scores

Variables	Inter-observer reproducibility	
	ICC (95% CI)	P value
Systemic arterial features		
Diameter (mm)	0.841 (0.724–0.910)	<0.001
Angle (°)	0.989 (0.980–0.994)	<0.001
CT scores for GGO	0.764 (0.543–0.900)	0.001
CT scores for septal thickening	0.734 (0.549–0.872)	<0.001

The P value is expressed as difference between the ICC and 0. CT, computed tomography; ICC, intraclass correlation coefficient; CI, confidence interval; GGO, ground glass opacity.

Table S3 Radiological features of ground glass opacity and septal thickening in ASALL

Variables	In total	Hemoptysis group	Non-hemoptysis group	P value
GGO features	N=23	N=13	N=10	
Location				0.06
Left lower lobe	20 (86.96)	13 (100.00)	7 (70.00)	
Right lower lobe	3 (13.04)	0	3 (30.00)	
Distribution for GGO				0.03
Peri-systemic artery	15 (65.22)	11 (84.62)	4 (40.00)	
Peripheral	3 (13.04)	0	3 (30.00)	
Diffuse	5 (21.74)	2 (15.38)	3 (30.00)	
CT scores for GGO	2 (1, 2)	2 (1, 3)	2 (1, 2)	0.38
Septal thickening features	N=31	N=16	N=15	
Location				0.02
Left lower lobe	26 (83.87)	16 (100.00)	10 (66.7)	
Right lower lobe	5 (16.13)	0	5 (33.3)	
Distribution for septal thickening				0.49
Peri-systemic artery	21 (67.74)	11 (68.75)	10 (66.67)	
Peripheral	4 (12.90)	1 (6.25)	3 (20.00)	
Diffuse	6 (19.36)	4 (25.00)	2 (13.33)	
CT scores for septal thickening	3 (2, 3)	3 (3, 3)	2 (2, 3)	0.02

Data are expressed as frequency with percentage or median with interquartile range (IQR) in parentheses. P values are obtained by comparing the hemoptysis group and non-hemoptysis group with Fisher Exact test or Mann-Whitney *U*-test used. The Location, Distribution, and scores for GGO and Septal thickening were defined as the lower lobe which the abnormal systemic artery involved. Unless otherwise indicated, the Distributions for GGO and Septal thickening were identified according to relevant literature (36) and CT score (8) was obtained based on the area involved in the affected lower lobe, as follows: 0, noninvolvement; 1, <5% involvement; 2, 5–25% involvement; 3, 26–49% involvement; 4, 50–75% involvement; and 5, >75% involvement, with possible total scores ranging from 0 to 5. ASALL, anomalous systemic arterial supply to the normal basal segments of the lower lobe; GGO, ground glass opacity; CT, computed tomography.

Table S4 Multivariate logistic regression analysis with septal thickening included

Variables	β	Standard error	Exp (B)	95% CI	P value
Age	3.695	1.655	40.252	1.570–1031.907	0.02
Sex	4.174	1.766	64.953	2.038–2069.645	0.01
GGO	3.347	1.648	28.422	1.124–718.574	0.04
C_{D-A}	2.888	1.338	17.956	1.303–247.467	0.03
Septal thickening	2.416	1.691	11.197	0.407–307.949	0.15
Constant	−10.152	3.495	0.000	–	0.004

Age (≤40 years *vs.* >40 years); C_{D-A} (>0.522 *vs.* ≤0.522). GGO, ground glass opacity; C_{D-A}, combined systemic arterial features; CI, confidence interval.

References

36. Yazdi NA, Ghadery AH, SeyedAlinaghi S, et al. Predictors of the chest CT score in COVID-19 patients: a cross-sectional study. Virol J 2021;18:225.