Supplementary Materials

Supplementary Data 1

The present study, based on relevant literature regarding tuberculosis imaging scoring systems, systematically evaluated patients' radiographic characteristics and disease severity using the following scoring methodology:

Items	Definition
% parenchymal pathology , whole lung level	
Fibrosis	Lung lesions characterized by atelectasis of the upper lobe, retraction of the hilum, compensatory lower lobe hyperinflation, and mediastinal shift toward the fibrotic area.
Calcification	Focal hyperdense lesions (CT attenuation>100 hounsfield units) resulting from dystrophic calcium deposition in necrotic granulomas, typically appearing as discrete, high attenuation nodules or laminar configurations on imaging.
Emphysema	Focal areas or regions of low attenuation usually without visible walls.
Mediastinal lymphaden-o pathy(Yes/No)	Mediastinal / hilar lymph nodes ≥10mm diameter.
Bronchiectasis	Airway lumen diameter greater than accompanying pulmonary artery outer diameter, or airways visible within 1 cm of the lung periphery, or lack of normal airway tapering.
Cavity	Gas filled structure, seen as a lucency or lowattenuation area within a pulmonary consolidation, a mass, or a nodule.
Micronodules	Rounded opacities, well or poorly -defined, ≥1mm, measuring up to 3mm in diameter.
Consolidation	Homogeneous increase in lung parenchymal attenuation which obscures the margins of vessels and airway walls. An air bronchogram may be present.
Parenchymal infiltrates	Non-specific term denoting alveolar filling processes (exudates, cells, or tissue) manifesting as ground-glass opacities (GGO) or consolidation with air bronchograms on CT.
Mosaicism	Specifically, the low attenuation component of a variable “mosaic” attenuation pattern within the lung.
Pleural lesions (Yes/No)	Pleural effusions(Accumulation of fluid within pleural space) or pleural thickening (Pleural thickening of ≥10mm).
Collapse	Complete airlessness of lung tissue due to bronchial obstruction (e.g., caseous lymph node compression) or cicatrization, radiographically demonstrating
Volume loss	Irreversible reduction in lung parenchymal volume secondary to fibrotic changes.
Site of lesions	Unilateral or Bilateral.
Radiological score (out of 24)	Each lung was divided into 3 areas and each area was rated on a 5-point scale (0 to 4). For a given area, the score was was zero point when there was no involvement of the lung parenchyma and 4 points when almost or the total area was involved.The maximum score for a lung was 12 and 24 for the both lungs.

Supplementary Table S1. Comparison of baseline characteristics at initial treatment between assessed and not assessed

Items	Total (*n* = 178)	Assessed (*n* = 53)	Not assessed (*n* = 125)	*P* value
Male (%)	108 (60.7)	34 (64.2)	74 (59.2)	0.536
Age (years)	37.5 ± 15.0	36.9 ± 13.9	37.7 ± 15.5	0.734
BMI (kg/m^2)	21.99 ± 3.26	21.4 ± 2.8	22.2 ± 3.4	0.124
Smoking history (%)	59 (33.1)	18 (34.0)	41 (32.8)	0.880
Previous TB (%)	17 (9.6)	7 (13.2)	10 (8.0)	0.064
MDR (%)	10 (5.6)	3 (5.7)	7 (5.6)	1.000
Sputum smear(+) (%)	24 (13.5)	7 (13.2)	17 (13.6)	0.929
Sputum culture(+) (%)	44 (24.7)	11 (20.8)	33 (26.4)	0.409
Radiological score	4.8 (3.0-8.0)	4.0 (2.8-6.3)	5.5 (3.5-8.0)	0.139
Lung function parameters (Initial test)				
FEV_1/FVC	81.08 ± 11.50	80.23 ± 11.02	81.44 ± 11.72	0.523
FEV_1% pred	90.36 ± 19.92	88.36 ± 20.28	91.21 ± 19.78	0.386
FVC % pred	103.06 ± 18.28	102.19 ± 19.93	103.43 ± 18.06	0.682
Proportion with airflow obstruction (%) (Initial test)	24 (13.5)	7 (13.2)	17 (13.6)	0.944

Note. BMI, Body Mass Index; TB, tuberculosis; MDR, Multidrug Resistance; IGRA, Interferon Gamma Release Assay; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; % pred, % predicted.

Supplementary Table S2. Comparison between normal airflow and airflow obstruction groups at initial treatment

Items	Total (*n* = 53)	Normal airflow (*n* = 43)	Airflow obstruction (*n* = 7)	*P* value
Male (%)	34 (64.2)	29 (67.4)	5 (71.4)	1.000
Age (years)	36.9 ± 13.9	36.0 ± 14.3	42.7 ± 11.5	0.242
BMI (kg/m^2)	21.41 ± 2.79	21.61 ± 2.97	20.74 ± 1.57	0.453
Smoking history (%)	18 (34.0)	16 (37.2)	2 (28.6)	0.986
Pack-years of smoking	0 (0-3.3)	0 (0-4.0)	0 (0-25.0)	0.978
Diabetes history (%)	2 (3.8)	2 (4.7)	0 (0)	0.432
Hypertension history (%)	5 (9.4)	5 (11.6)	0 (0)	0.206
Previous TB (%)	7 (13.2)	4 (9.3)	2 (28.6)	0.192
MDR (%)	3 (5.7)	3 (7.0)	0 (0)	0.333
IGRA positive (%)	35 (66.0)	28 (65.1)	5 (71.4)	1.000
Sputum smear(+) (%)	7 (13.2)	5 (11.6)	1 (14.3)	0.844
Sputum culture(+) (%)	11 (20.8)	8 (18.6)	2 (28.6)	0.919
Radiological score	4.0 (2.8-6.3)	3.5 (2.0-5.0)	8.0 (5.0-16.5)	0.002*

Note. BMI, Body Mass Index; TB, tuberculosis; MDR, Multidrug Resistance; IGRA, Interferon Gamma Release Assay; *$P < 0.05$.

Supplementary Table S3. Comparison between the low and normal DLCO at initial test and 5-year follow-up

Items	Initial test			5-year after follow-up		
	Low DLCO (*n* = 34)	Normal DLCO (*n* = 19)	*P* value	Low DLCO (*n* = 14)	Normal DLCO (*n* = 35)	*P* value
Spirometry						
FEV_1 (L)	2.87 ± 1.01	3.39 ± 0.94	0.077	2.52 ± 1.07	3.14 ± 1.01	0.061
FVC (L)	3.63 ± 1.06	3.99 ± 0.97	0.238	3.33 ± 1.07	4.04 ± 1.08	0.042*
FEV_1/FVC	77.81 ± 11.42	84.57 ± 8.99	0.031*	74.22 ± 15.20	77.37 ± 9.67	0.389
FEF_{25-75},% pred	60.27 ± 26.64	69.84 ± 21.44	0.186	58.86 ± 29.72	65.75 ± 27.34	0.441
Plethysmography						
TLC (L)	6.11 ± 1.46	6.97 ± 1.81	0.068	5.90 ± 1.26	8.39 ± 5.11	0.543
RV (L)	2.56 ± 0.93	3.20 ± 1.42	0.053	2.56 ± 0.93	2.10 ± 0.92	0.121
RV/TLC	41.53 ± 10.57	44.65 ± 10.01	0.298	45.15 ± 7.56	41.20 ± 10.94	0.223

Note. FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; FEF_{25-75}, forced expiratory flow at 25%-75%; TLC, total lung capacity; RV, residual volume; % pred, % predicted; $^*P < 0.05$.

Supplementary Table S4. Comparison of chest CT at initial treatment in patients between normal airflow and airflow obstruction groups

Items	Total (*n* = 53)	Normal airflow (*n* = 43)	Airflow obstruction (*n* = 7)	*P* value
% parenchymal pathology , whole lung level				
Fibrosis	3.0 (1.5-5.5)	3.0 (1.0-5.0)	5.0 (3.0-12.0)	0.184
Calcification	0.5 (0-1.3)	0.5 (0-1.0)	0.5 (0-2.0)	0.870
Emphysema	1.0 (0.3-3.0)	1.0 (0-2.0)	3.0 (2.0-8.0)	0.011*
Mediastinal lymphadenopathy (%)	18 (34.0)	14 (32.6)	4 (57.1)	0.308
Bronchiectasis	1.0 (0.5-3.0)	1.0 (0.5-1.5)	3.0 (1.0-4.0)	0.009*
Cavity	0 (0-2.0)	0 (0-2)	0 (0-0)	0.335
Micronodules	4.0 (2.0-9.0)	4.0 (2.0-8.0)	3.0 (2.0-60.0)	0.681
Consolidation	2.0 (1.0-5.0)	2.0 (1.0-5.0)	1.0 (0.5-2.0)	0.394
Parenchymal infiltrates	3.0 (1.0-10.0)	3.0 (1.0-9.0)	2.0 (1.0-12.0)	0.622
Mosaicism	1.0 (0.5-3.0)	1.0 (0.5-3.0)	0.5 (0.5-1.5)	0.584
Pleural lesions (effusions or thickening) (%)	22 (41.5)	13 (30.2)	6 (85.7)	0.018*
Collapse	0 (0-1.8)	0 (0-1.0)	0 (0-16.0)	0.493
Volume loss	5.0 (3.0-15.0)	5.0 (3.0-12.4)	15.0 (2.0-30.0)	0.528
Site of lesions (%)				0.023*
Unilateral	23 (43.4)	23 (53.5)	0 (0)	
Bilateral	30 (56.6)	20 (46.6)	7 (100)	
Radiological score	4.0(2.8-6.3)	3.5 (2.0-5.0)	8.0 (5.0-16.5)	0.002*

Note. *$P < 0.05$.

Supplementary Table S5. Comparison of chest CT at treatment completion in patients between normal airflow and airflow obstruction groups

Items	Total (*n* = 53)	Normal airflow (*n* = 43)	Airflow obstruction (*n* = 7)	*P* value
% parenchymal pathology , whole lung level				
Fibrosis	4.0 (2.0-5.0)	3.5 (2.0-5.0)	5.0 (3.5-14.0)	0.064
Calcification	1.0 (0-2.0)	1.0 (0.2-2.0)	1.0 (0-3.0)	0.935
Emphysema	1.0 (0.2-3.0)	1.0 (0-2.0)	3.0 (2.0-8.0)	0.010*
Mediastinal lymphadenopathy (%)	12 (22.6)	10 (23.3)	2 (28.6)	0.827
Bronchiectasis	1.0 (0-2.0)	0.5 (0-1.0)	3.0 (1.0-5.0)	0.002*
Cavity	0 (0-0)	0 (0-0)	0 (0-0)	0.891
Micronodules	3.0 (1.0-5.8)	2.0 (1.0-5.0)	3.0 (2.0-30.0)	0.184
Consolidation	1.0 (0.2-1.5)	0.5 (0.1-1.0)	1.0 (0.2-1.5)	0.743
Parenchymal infiltrates	1.0 (0.5-3.5)	1.0 (0.5-3.0)	1.5 (0.5-2.0)	0.870
Mosaicism	0.5 (0-1.0)	0.2 (0-1.0)	0.8 (0.2-1.0)	0.258
Pleural lesions (effusions or thickening) (%)	12 (22.6)	7 (16.3)	3 (42.9)	0.270
Collapse	0 (0-0.4)	0 (0-0)	1.0 (0-13.0)	0.056
Volume loss	2.0 (1.0-5.0)	2.0 (1.0-4.0)	2.0 (1.0-30.0)	0.350
Site of lesions (%)				0.064
Unilateral	26 (49.1)	25 (58.1)	1 (14.3)	
Bilateral	27 (50.9)	18 (41.9)	6 (85.7)	
Radiological score	2.5 (1.0-3.8)	2.0 (1.0-3.0)	3.5 (3.0-11.0)	0.013*

Note. *$P < 0.05$

Supplementary Table S6. Comparison of chest CT at 5-year follow-up in patients between normal airflow and airflow obstruction groups

Items	Total (*n* = 53)	Normal airflow (*n* = 41)	Airflow obstruction (*n* = 9)	*P* value
% parenchymal pathology , whole lung level				
Fibrosis	3.8 (2.0-6.8)	3.0 (5.0-2.0)	5.8 (2.8-29.0)	0.199
Calcification	2.0 (0.6-3.0)	1.5 (0.6-2.9)	1.8 (0.5-4.0)	0.711
Emphysema	1.0 (0-3.8)	1.0 (0-2.8)	6.0 (2.0-18.5)	0.003*
Mediastinal lymphadenopathy (%)	10 (25.0)	7 (21.9)	2 (16.7)	0.682
Bronchiectasis	1.0 (0-1.0)	0.4 (0-1.0)	3.8 (1.0-8.0)	0.001*
Cavity	0 (0-0)	0 (0-0)	0 (0-0)	0.740
Micronodules	2.0 (1.0-6.0)	2.3 (0.6-5.8)	5.0 (1.9-37.8)	0.106
Consolidation	0.5 (0-1.0)	0.5 (0-0.9)	0.8 (0-2.4)	0.830
Parenchymal infiltrates	0.8 (0.1-2.0)	0.5 (0-2.0)	1.3 (0.5-7.8)	0.279
Mosaicism	0 (0-0.9)	0 (0-0.4)	0.8 (0.3-2.3)	0.037*
Pleural lesions (effusions or thickening) (%)	5 (12.5)	2 (6.3)	2 (33.3)	0.316
Collapse	0 (0-0)	0 (0-0)	1.0 (0-9.8)	0.082
Volume loss	1.3 (0.8-3.0)	1.0 (0.6-3.0)	12.8 (0.5-40.0)	0.261
Site of lesions (%)				0.136
Unilateral	19 (47.5)	18 (56.3)	1 (16.7)	
Bilateral	21 (52.5)	14 (43.8)	5 (83.3)	
Radiological score	1.5 (1.0-3.0)	1.5 (1.0-2.8)	5.8 (2.5-12.3)	0.008*

Note. *$P < 0.05$

Supplementary Table S7. Comparison of Chest CT at 5-year follow-up in patients between normal small airway function and small airway dysfunction groups

Items		Normal small airway function (*n* = 26)	Small airway dysfunction (*n* = 26)	*P* value
% parenchymal pathology , whole lung level				
Fibrosis		3.0 (1.5-4.0)	4.5 (2.5-9.0)	0.074
Calcification		1.0 (0.5-2.0)	2.0 (1.0-3.0)	0.153
Emphysema		0.5 (0-1.0)	2.0 (1.0-8.0)	0.004*
Mediastinal lymphadenopathy (%)		4 (15.4)	6 (23.1)	0.855
Bronchiectasis		0.5 (0-1.0)	1.0 (0-2.5)	0.592
Cavity		0 (0-0)	0 (0-0)	0.768
Micronodules		1.0 (0.5-3.0)	3.0 (1.8-10.0)	0.020*
Consolidation		0.5 (0-0.5)	0.5 (0-1.8)	0.728
Parenchymal infiltrates		0.5 (0-2.0)	1.0 (0.4-2.0)	0.196
Mosaicism		0 (0-0.1)	0.4 (0-1.0)	0.036*
Pleural lesions (effusions or thickening) (%)		0 (0)	5 (19.2)	0.073
Collapse		0 (0-0)	0 (0-1.5)	0.270
Volume loss		1.0 (0.5-2.0)	2.0 (0.9-11.0)	0.099
Site of lesions (%)				0.059
	Unilateral	12 (46.2)	7 (26.9)	
	Bilateral	7 (26.9)	14 (53.8)	
Radiological score (out of 24)		1.0 (0.5-2.0)	2.9 (1.5-5.3)	0.001*

Note. *$P < 0.05$.

Supplementary Table S8. Comparison of clinical characteristics between the younger age and older age groups

Parameters	Younger age group (n = 27)	Older age group (*n* = 26)	*P* value
Baseline			
Male (%)	16 (59.3)	18 (69.2)	0.449
BMI (kg/m^2)	20.11±2.16	22.76±2.76	< 0.001*
Previous TB (%)	1 (3.7)	6 (23.1)	0.094
MDR (%)	1 (3.7)	2 (7.7)	0.973
IGRA positive (%)	20 (74.1)	15 (57.7)	0.208
Lung function (5-year follow-up)			
FEV_1 % pred (%)	92.69±14.97	80.48±25.75	0.039*
FVC % pred (%)	98.37±13.03	89.92±21.62	0.090
FEV_1/FVC (%)	80.22±9.13	72.16±13.43	0.013*
FEF_{25-75} % pred (%)	73.58±26.18	54.38±28.58	0.014*
FEF_{50} % pred (%)	78.80±27.63	57.70±31.43	0.013*
FEF_{75} % pred (%)	81.92±24.56	69.40±35.48	0.151
TLC % pred (%)	99.25±21.66	94.23±22.89	0.431
RV/TLC (%)	36.15±19.07	46.78±22.44	0.079
DLCO % pred (%)	85.00±19.87	83.36±18.34	0.766
Radiological score (5-year follow-up)	1.3 (0.5-2.4)	2.9 (1.4-7.1)	0.005*

Note. BMI, Body Mass Index; TB, tuberculosis; MDR, Multidrug Resistance; IGRA, Interferon Gamma Release Assay; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; FEF_{25-75}, forced expiratory flow at 25%-75%; FEF_{50}, forced expiratory flow at 50%; FEF_{75}, forced expiratory flow at 75%; TLC, total lung capacity; RV, residual volume; DLCO, diffusing capacity of the lungs for carbon monoxide; % pred, % predicted; *, $P < 0.05$. Grouping was based on the median age of patients (39 years old).

Supplementary Table S9. Comparison of clinical characteristics between the low and high radiological score groups

Parameters	Low radiological score (*n* = 21)	High radiological score (*n* = 19)	*P* value
Baseline			
Male (%)	16 (76.2)	11 (57.9)	0.217
Age (years)	37.90 ± 10.88	49.32 ± 14.39	0.007*
BMI (kg/m^2)	19.81 ± 2.18	22.37 ± 2.90	0.003*
Previous TB (%)	2 (9.5)	5 (26.3)	0.328
MDR (%)	2 (9.5)	1 (5.3)	1.000
IGRA positive (%)	16 (76.2)	11 (57.9)	0.217
Lung function (5-year follow-up)			
FEV_1 % pred (%)	95.16 ± 13.24	74.15 ± 25.53	0.002*
FVC % pred (%)	100.03 ± 11.39	84.86 ± 20.52	0.006*
FEV_1/FVC (%)	80.46 ± 7.67	70.31 ± 12.48	0.003*
FEF_{25-75} % pred (%)	73.32 ± 20.13	47.26 ± 26.88	0.001*
FEF_{50} % pred (%)	77.21 ± 19.74	51.04 ± 30.76	0.003*
FEF_{75} % pred (%)	88.13 ± 21.13	57.47 ± 30.37	0.001*
TLC % pred (%)	99.53 ± 16.88	92.64 ± 26.89	0.342
RV/TLC (%)	44.16 ± 29.89	42.31 ± 14.47	0.809
DLCO % pred (%)	85.88 ± 11.95	79.95 ± 26.99	0.379

Note. BMI, Body Mass Index; TB, tuberculosis; MDR, Multidrug Resistance; IGRA, Interferon Gamma Release Assay; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; FEF_{25-75}, forced expiratory flow at 25%-75%; FEF_{50}, forced expiratory flow at 50%; FEF_{75}, forced expiratory flow at 75%; TLC, total lung capacity; RV, residual volume; DLCO, diffusing capacity of the lungs for carbon monoxide; % pred, % predicted; $^*P < 0.05$. Grouping was based on the median radiological score at 5-year follow-up.