

Table II. Serial lung function studies (atmospheric air)

	Determined		Predicted
	8/68	9/69	
<i>I. Mechanics and lung volumes</i>			
Maximal breathing capacity, l/min	98	69	118
Vital capacity, l	2.1	1.9	3.8
Timed vital capacity, % 1 sec	68	73	>75
Residual volume, l	1.1	1.1	1.2
Total lung capacity, l	3.2	3.0	5.0
<i>II. Alveolar gas, arterial blood, rest</i>			
Alveolar O <sub>2</sub> pressure (P <sub>A</sub> O <sub>2</sub> ) mm Hg		100	104
Arterial O <sub>2</sub> pressure (P <sub>a</sub> O <sub>2</sub> ) mm Hg		82	95
A-a O <sub>2</sub> difference, mm Hg		18	10-20
Arterial CO <sub>2</sub> pressure (P <sub>a</sub> CO <sub>2</sub> ), mm Hg		38	40
Diffusing capacity, ml/min mm Hg:			
Steady state, CO		8.3	>15
Single breath, CO	16.0	15.4	28
Fraction CO removed, %		33.4	>50
Absolute shunt, % of cardiac output		10	<4

he recalled that, in 1953, he had worked for 9 months in a factory which made cigarette filters containing asbestos. For the next 14 years, chest roentgenograms, taken at 3-year intervals in the woolen mills, were reported as normal. From 1965 onwards films taken at 6-monthly intervals showed elevation of the diaphragm with progressive loss of lung volume.

On physical examination there was marked finger clubbing. Chest expansion was diminished and the diaphragm was high with limited excursion. Fine, crackling 'cellophane' râles were heard over the bases. There was no evidence of heart disease, and the examination was otherwise normal.

The chest roentgenogram at this time showed 'small lungs' (fig. 1). The diaphragm was elevated and, on full inspiration, it reached only the 8th ribs posteriorly. There was a dense linear and reticular parenchymal infiltrate, more marked in the lower zones. Characteristically, the outlines of the heart and diaphragm were ill defined, and there was marked bilateral pleural thickening.

Laboratory studies, including hematology, sedimentation rate, serum enzymes, latex fixation, LE preparations, liver and renal function tests, as well as EKG, were within normal limits. Skin tests for tuberculosis and fungi were negative as were sputum cultures for aerobes, anaerobes, acid-fast bacilli, and fungi. Asbestos bodies were readily demonstrated in the sputum.

Lung function studies (table II) were performed by methods previously described [7]. There was a marked restrictive impairment with vital, timed vital and total lung capacities reduced to 50% of predicted. Residual volume, FEV<sub>1</sub>/FVC and the mixing index were in the normal range. Resting ventilation and the ventilation equivalent for oxygen were