

CHRYSOTILE ASBESTOS—LANGER ET AL

353

Table 2.—Comparison of Particle Counts Obtained by Light and Electron Microscopy

Case	Optical Microscopy			Electron Microscopy				
	Asbestos Bodies		Asbestos Bodies	Chrysotile		Other Fibers		Platy Particles (Clays, Talc)
	O ₂ Ashing	KOH Digestion		Fibers	Fibrils	Thick*	Thin*	
1	3	0	1	14	40	7	1	+
2	1	0	0	0	9	15	0	0
3	0	0	0	0	4	4	1	0
4	3	0	0	1	2	31	0	0
5	3	4	0	1	15	1	2	0
6	0	0	0	9	203	0	4	+
7	0	0	0	1	132	0	1	+
8	3	2	0	36	308	13	10	+
9	0	0	0	0	37	63	0	0
10	1	32	0	1	24	11	0	0
11	9	3	1	8	99	43	7	+
12	1	0	0	5	114	14	11	0
13	0	2	0	3	17	0	0	+
14	0	0	0	5	74	4	1	+
15	1	2	0	2	55	9	4	+
16	0	1	0	6	64	6	2	0
17	0	2	0	2	55	2	0	+
18	0	0	0	1	15	4	5	+
19	1	0	0	0	7	2	2	0
20	1	5	1	5	23	0	3	0
21	0	0	0	9	14	3	1	+
22	2	1	0	3	18	8	2	+
23	0	0	0	6	10	25	3	+
24	0	4	0	5	45	2	0	+
25	1	4	0	16	254	7	6	+
26	0	1	0	3	23	9	0	+
27	1	0	0	4	77	1	0	+
28	0	0	0	18	168	13	3	+

* Thick fibers, those with length:diameter ratio < 10:1; thin fibers, length:diameter ratio > 10:1.

Table 3.—Distribution of Chrysotile in 28 Cases Studied

Group	No. of Chrysotile Fibers and Fibrils	Cases	Men	Women
1	≤ 9	4	3	1
2	10-50	11	5	6
3	51-99	6	1	5
4	100-200	4	4	0
5	≥ 201	3	3	0
"Blank grids"	≤ 9	...	...	...

we are to seek chrysotile, it would appear necessary to include a search at a submicroscopic level.

Present Study

Our laboratory has been concerned with an investigation of 3,000 consecutive deaths in New York city.⁹ Of this number, approxi-

mately 45% have been found to have what appear to be asbestos bodies in their lungs. A still larger proportion had "uncoated" fibers present (I. J. Selikoff, MD, unpublished data). This is in keeping with our observation that asbestos bodies represent a small proportion of fibrous particles present in the lung tissue of asbestos workers.

For the present investigation, 28 consecutive cases were chosen (Table 1). All had been longtime residents of New York city; none had been asbestos workers. In each, the lungs had been frozen at autopsy. From each, inorganic materials were extracted for study.

This investigation was undertaken to determine the presence or absence of submicroscopic uncoated asbestos fibers in the lungs of urban dwellers who died in New York city. Comparison of light microscopic