

Irving J. Selikoff, M.D.
707 Broadway
Paterson 4, N.J.
Armed 4-0050



March 21, 1955

Dr. Selikoff, M.D.,
707 Broadway
Paterson 4, N.J.

re: Pignatelli, Joseph

Dear Mr. Selikoff:

Mr. Joseph Pignatelli, 324 Grant Street, Paterson, was examined by me on November 26, 1954, November 27, December 3 and December 17, 1954.

He is a 48 year old millwright whose past history is not remarkable. His employment history begins as a farm worker in Italy. He then came to the United States at the age of fourteen. He then worked as a laborer at Public Service, then as a summer in a silk mill and then as a truck driver in New York. These occupations were followed until 1940 when he went to work for the Union Asbestos and Rubber Co.

There, his first job was as a loom, weaving asbestos blankets. This had some dust, as the machine bays. He was at this approximately three years and then worked as a millwright—that is, employed in the repair of machines. He continued at this occupation at the Union Asbestos for the next seven years. This involved much work in and about machines where a great deal of dust was in the air. He always wore a mask at his work and every three to six months his chest was x-rayed by Dr. Roemer on instruction of the company. For the past three or three and a half years he has noted that he has become rather short-winded. This was noticed at first with fast walking, hard work, stairs, etc. Recently, however, it has increased so that now even fast walking, on level ground, results in dyspnea. In addition to this shortness of breath, for the past several years he has noticed that he has begun to "gag on cigarettes". He used to smoke approximately one package of cigarettes a day and now he smokes approximately one-half that amount. However, there is little or no cough and little or no sputum as well as no hemoptysis and no chest pain. It should be noted that in addition to the shortness of breath on exertion there is also shortness of breath with cold air, especially if he walks a bit faster.

The remainder of systemic history was not remarkable nor was a physical examination, start from the respiratory tract.

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Irving J. Selikoff, M.D.

707 Broadway

Peterborough, N.H.

Re: George J. Fignatelli, Jr. -2-

The respiratory tract, however, was the site of serious, extensive and significant damage. Here, physical examination showed fine rales at both bases, cough induced by any deep respiration, marked clubbing of the fingers, and significant x-ray changes. There was moderate to marked increased hilar markings, fine granular lower and mid-lung field infiltration, decreased vascular markings in these areas, peribronchovascular thickening. These findings were confirmed on fluoroscopy, which, in addition, noted inadequate movement of the diaphragm. Laboratory studies included normal urinalysis, hemoglobin of 44%, no acid-fast bacilli on smear of the sputum, hemoglobin 14 grams, red cells 5,410,000, white blood count of 12,400 with 57% neutrophils, 2% eosinophils, 10% monocytes, 31% lymphocytes. Dextrose circulation time was 14 seconds and serological studies for syphilis were negative. Electrocardiogram performed by my associate, Dr. David Roth, showed a low T wave in V-6 and in lead II, but this was inadequate to record as abnormal.

Pulmonary function studies were performed at the Cardio-respiratory Research Laboratory of the Mount Sinai Hospital, on Dec. 10, 1954 by Dr. Richard A. Bader and Dr. Mortimer E. Sader. There is appended to this report, a summary of their findings in extensive and complete respiratory function studies. These studies indicated "extensive and significant impairment in the pulmonary functions." This is particularly true in view of the reduction in lung volumes, the arterial desaturation at rest and severe desaturation on exercise. These findings indicate, especially the latter, that this patient is unable to affect adequate gas exchange through his lungs. "The findings are those seen in alveolar-capillary block and implies involvement of the alveolar-capillary membrane."

In view of the serious damage suffered by Mr. Fignatelli, with characteristic x-ray findings of asbestosis, I find that he is suffering from severe pulmonary asbestosis causally related to his occupation. In view of, further, not only the symptoms suffered, but also the objective findings of severe functional damage of the lungs, I find that he is disabled to the extent of 90% of total disability and it is our experience that this disability is permanent. Moreover, there is an undoubted but significant risk of further pulmonary damage by superimposed infection, an increased tendency to carcinoma of the lung, and an increased tendency to the development of tuberculosis. However, these potential dangers are not evaluated and his disability is based entirely on the present findings of damage due to pulmonary asbestosis at this time.

Very truly yours,

Irving J. Selikoff, M.D.

cc: Dr. Selikoff

cc: Dr. Sader

cc: Dr. Selikoff

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Irving J. Selikoff, M.D.
David Roth, M.D.
Robert H. Joelson, M.D.

Report on PERMATELLI, Joseph
Age 43
B. 3.8.12.04 n²
Studied: 12/10/54

21. Lung volumes, maximum breathing capacity and index of intrapulmonary mixing.

	Predicted	lying	standing
Exp. res. vol.		1250 cc	1250 cc
Insp. cap		1250 cc	1250 cc
Vit. cap (calc)	1250 cc	1250 cc	1250 cc
(obs.)	1250 cc	1250 cc	1250 cc
Residual volume	1250 cc	1250 cc	1250 cc
Total capacity:	2500 cc	2500 cc	2500 cc
<u>Residual volume</u>			
Total capacity	24.4 L	23.7 L	23.7 L
Maximum breathing capacity	122 L/min	76 L/min	122 L/min
E ₁ (Alveolar nitrogen after 7 min. O ₂ breathing)		1.15	

II. Breathing results.

	1 Min. Stop Exercise	1 min.	2 min.	3 min.	4 min.	5 min.
Ventil.	23.5	35	25.4	34.5	31.9	34.5
Breathing Reserve Ratio	61	58	66	72	80	81

Dyspnea for 1½ minutes following the standard one minute exercise.

Report on FICHIATELLI, Joseph -2-

Insp. O2%	215	215	166	Room Air following std. exercise
State	Resting	Resting	Resting	
VO2 (oxygen uptake)	206 cc	182 cc	247 cc	
VO2/M ²	11.5	11.9	14.1	
VCO2 (CO2 output)	233	240	239	
" / M ²	11.3	11.8	11.7	
R.Q.	.79	.79	.83	
VE (minute ventilation)	7.25 L/min	7.46 L/min	8.76 L/min	
VE/M ²	3.56	3.66	4.30	
Resp. rate	9	9	23	
Tidal volume (per breath)	1066 cc	829 cc	674 cc	
Expired % CO2	3.92	3.92	3.33	
Exp. pCO2	27.7	27.7	23.3	
Arterial Blood				
pH	7.46	7.46	7.41	
O2 cont.	19.3	18.9	15.2	16.2
" cap.	21.4	21.4	21.4	22.6
" sat.	92	90	88	71
CO2 cont. (whole blood)	47.5	46.4	47	47
" " (serum)	37.6	36.3	37	37.2
p CO2	40	40	39	
Respiratory dead space	203 cc	201 cc	214 cc	
Dead space % of tidal volume	29%	24%	32%	
Effective Alveolar ventilation	5.44 L/min	5.60 L/min	5.95	

SUMMARY & CONCLUSIONS

1. There is a marked reduction vital capacity and total capacity, and a moderate reduction of the residual volume. The ratio of the residual volume to total capacity is within normal limits.
2. The index of intrapulmonary mixing (alveolar nitrogen after 7 minutes oxygen breathing) is normal indicating no disturbance in the distribution of gases in the lungs.

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Report on FICHAPELLI, Joseph -3-

3. The patient has a reduction of his breathing reserve (for the last minute of recovery from standard exercise) which is below 65% (the level at which dyspnea usually appears). Indeed, he was dyspneic for 12 minutes following the standard exercise.
4. The respiratory dead space is within normal limits, as compared with tidal ventilation.
5. There is marked hyperventilation following exercise.
6. There is a reduction in the arterial oxygen saturation at rest and a marked reduction on exercise. This is very abnormal.
7. The arterial pCO_2 (carbon dioxide tension is normal).

CONCLUSIONS

The uniform reduction in lung volumes, the normal distribution of inspired gases, normal maximum breathing capacity, the marked hyperventilation on exercise, the arterial unsaturation at rest and severe unsaturation on exercise are all consistent with impairment of pulmonary function as far as the gas exchange across the alveolar membrane is concerned.

The findings are those seen in alveolo-capillary block and implies involvement of the alveolar-capillary membrane. There is no evidence of emphysema.

The patient has extensive and significant impairment in pulmonary function.

(signed) Richard A. Bader, M.D.
Mortimer E. Bader, M.D.

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