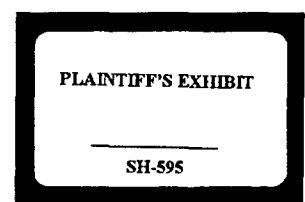


730.053



August 29, 1979

MR. R. L. BRUNNER

Ron:

Attached is the NCI comment regarding fibrous glass press reports. This is the major issue and I will discuss it with you when I get back on Friday.

Attachment

RLD	CTG	MM	DPA	KCC
REVIEW OF SAFETY OPERATIONS				
12/9				
WMC	PJW	BJD		FILE

R. E. Joyner
R. E. JOYNER, M. D.

LAM 017018

DPMC-10758

~~OSR/GR/DAS~~
file: fibreglass

National Cancer Program special communication

ooo

July 9, 1979

Reports have appeared in the public press suggesting that dust from fibrous glass may be responsible for causing a form of lung disease in workers similar to that produced by asbestos.

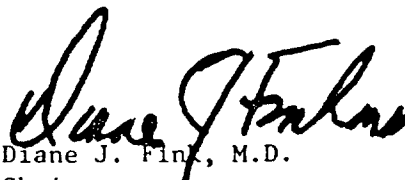
These reports are attributed to information about a case of pneumoconiosis presented at a meeting held under the auspices of the National Cancer Institute on November 15, 1978. They have occasioned widespread concern among those who make and use fibrous glass.

The purpose of this communication is to provide additional information which now shows that the case in question was almost certainly due to asbestos and not to exposure to fibrous glass.

Sincerely,



Arthur C. Upton, M.D., Director
National Cancer Institute
National Cancer Program



Diane J. Fink, M.D.
Chairman
Asbestos Education Task Force

LAM 017019

DPMC-10759

PNEUMOCONIOSIS AND FIBROUS GLASS

Introduction

A paper entitled "A Case Study on Fiberglass Pneumoconiosis and Some Comments on the Principle of Pneumoconiosis Prevention" by Tatsuo Sano, Keizo Chiyotnni and Hisao Shida, was presented by Dr. Sano (Vice Director, Institute for Science of Labour, Environmental and Occupational Disease, Kawasaki, Japan) at a meeting of the Asbestos Education Task Force of the National Cancer Institute on November 15, 1978 in Bethesda, Maryland.

This report included preliminary findings in a case of pneumoconiosis that appeared to be associated with occupational exposure to fibrous glass dust. Although the authors noted that the results were not conclusive, news of the report published in the lay press occasioned widespread interest and concern because of the implication that exposure to fibrous glass was capable of producing lung disease similar to that resulting from exposure to asbestos.

Since that time Japanese investigators have completed previously planned studies on the case in question and have also examined other workers in the same factory. The findings and conclusions of these investigations are summarized below; they leave little doubt that prior exposure to asbestos dust was responsible for the effects observed.

Initial Findings

As reported by Dr. Sano on November 15, 1978, a woman, aged 54, who had worked from 1970 to 1973 in a factory making prefabricated houses, where she was cutting glass wool insulation, was found in 1975 to be suffering from irritation of the larynx and a dry cough, and to have developed calcified plaques on the diaphragm and parietal pleura.

Examination of the lungs by selective alveolobronchography showed changes in the small airways to those produced by inhalation of long-fibered asbestos dust. Ferruginous bodies were found in tissue obtained by transbronchial biopsy.

Tentative Conclusions

Discussing these results, Dr. Sano considered it possible that the type of pneumoconiosis seen in this case could have been caused by fibrous glass, but observed that such a conclusion could not be reached without additional evidence from electron microscopy. In particular, it was important to determine whether the ferruginous bodies were caused by fiberglass or asbestos. He did not believe that asbestos was involved because it was understood that the patient had neither lived nor worked where there was the likelihood of inhaling asbestos dust. Dr. Sano also noted that the lack of a thorough epidemiological study was an important deficiency.

LAM 017020

DPMC-10760

Analysis of Biopsy Specimen

The planned examination by electron microscopy of the tissue obtained by transbronchial biopsy has now been completed.

The results show that many small chrysotile asbestos fibers were present, but no glass fibers, nor any fibers of other materials. The chrysotile fibers were found in higher concentration than is normal for such tissue; they were between 0.05 and 0.07 μ m diameter, and 0.3-0.5 μ m long, some 1-2 μ m long. The fine structure of some of the chrysotile fibers was seen, by selected area electron diffraction, to be amorphous, which implies that some magnesium or silicon ions had been leached out of the fibers as a result of long residence in the tissue. Some non-fibrous mineral dust particles were identified as well as some particles of glass dust.

Chemical composition of the various particles detected was determined from x-ray energy spectra taken in the microscope.

Occupational History

At the time of the initial report, it was believed that the patient in this case had neither worked nor lived where exposure to asbestos dust was likely. A more thorough occupational history obtained subsequently indicates that she had held many different jobs, several of them in dusty conditions, and that there had been at least one opportunity for occupational exposure to asbestos as early as 35 years before symptoms of pneumoconiosis developed.

Other Workers

During discussion of the original report to the Asbestos Education Task Force, it was understood that six other cases of pulmonary disease had been found among workers at the same factory. The existence of these cases cannot be confirmed and is attributed to a linguistic error.

It is reported that all 20 workers in the factory have recently been examined at the Rosai Hospital for Silicosis. Only three of them had been exposed to fibrous glass. No disease was found that could be attributed to this exposure.

Comments

The information summarized above leads to the conclusion that the case of pneumoconiosis reported by Dr. Sano on November 15, 1978, was a result of exposure to asbestos dust, probably many years previously. This conclusion is entirely consistent with the large body of accumulated information on the natural history of asbestosis.

A Note on Sources and Acknowledgements

The report given by Dr. Sano to the Asbestos Education Task Force on November 15, 1978, had previously been presented at the 5th Conference on Pneumoconiosis,

LAM 017021

DPMC-10761

October 29 - November 3, 1978, Caracas, Venezuela.

After hearing the report in November 1978, the Division of Cancer Control and Rehabilitation of the National Cancer Institute wrote to Dr. Sano requesting information on any new findings in connection with the workers who had been exposed to a fibrous glass.

At the end of February 1979, a personal communication from Dr. I.J. Solikoff, Mt. Sinai School of Medicine, indicated that electron microscopical analysis of the biopsy material by N. Kohyama, H. Kyono, and K. Kawai, National Institute of Industrial Health, Kawasaki, Japan, showed the presence of chrysotile fibers but no glass fibers. Confirmation, and a copy of Dr. Kohyama's report were received in March with a report by Dr. Jon L. Konzen, Owens Corning Fiberglas, who, with Dr. Paul Kotin, Johns Manville Corporation, met with Japanese occupational health authorities in February 1979. Further details of the occupational history and the health of other workers were included in the latter report. So far as is now known, none of the reports mentioned above have been published in the scientific literature.

THE NATIONAL CANCER PROGRAM is a joint effort by the Federal Government, nonprofit organizations, private and public institutions to coordinate the discovery and implementation of knowledge that will advance the attack on cancer. The commitment of the National Cancer Program to the American people is that the most promising research leads will be pursued with diligence and that every research advance that can benefit patients will be applied without delay.

Arthur C. Upton, M.D.
Director, National Cancer Institute
National Cancer Program

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LAM 017022

DPMC-10762

130
October 2, 1979

ASBESTOS
FIBERGLASS

Re: Attached Safety
Meeting Minutes

W. A. Noorman

Only asbestos insulation has to be bagged and tagged. Fiberglass insulation dust is an irritant but is not believed to produce the lung damage that asbestos does. Therefore fiberglass insulation does not have to be bagged and tagged. However, if handling the material is likely to produce dust, then procedures such as wetting, wearing respirators, and even bagging should be done.

JDR:gri

cc: R. P. Frutiger
ECB Satellited
JDR Chron



J. D. RANDELL

LAM 017023

DPMC-10763

Safety / Toxicity Water
Flammable Hazard 23

LAM 017017

DPMC 10757.1