

Fiberglass Tied to Asbestos-Type Lung Disease

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By Bill Richards December 18, 1978

A Japanese medical researcher has reported the first evidence that fiberglass, which is produced by the billions of pounds annually here and widely used as an insulating material, may be responsible for causing lung disease in workers similar to diseases caused by asbestos.

The finding, by Dr. Tatsuo Sano, an internationally known respiratory disease expert from Kawasaki, Japan, is considered both significant and troubling by the handful of cancer experts here familiar with the report. Federal cancer experts predicted recently that asbestos may be responsible for up to 17 percent of all cancers that will develop in the United States over the next few decades.

Sano delivered his findings Nov. 15 in Japanese, using an interpreter at a small gathering of medical experts and others at the National Cancer Institute.

According to several of those who attended the meeting, Sano said he found a lung disease known as pneumoconiosis in X-rays of seven of 20 workers he examined in a small factory in Japan where fiberglass panels are made for housing construction.

The workers were heavily exposed to fiberglass dust between 1970 and 1973, Sano reported. The researcher, who examined the workers late last year and early this year, said none had a history of exposure to any other type of cancer-causing dust.

Sano also reported that one of the Japanese workers had developed a thickening of the lining of his lung along with calcification, or plaque, on the lung lining. The condition, according to cancer experts here, is usually associated with the preliminary stages that occur before the development of a rare type of cancer called mesothelioma. The disease is generally caused by exposure to asbestos.

"Because these people are showing similar respiratory changes to those who have been exposed to asbestos over a longer period we have to be concerned about Dr. Sano's findings," Dr. Margaret Sloan, of the National Cancer Institute's division of cancer control and rehabilitation, said last week.

Sloan, who attended the meeting where Sano gave his report, said the development of pneumoconiosis in fiberglass workers could be compared with the development of asbestosis in asbestos workers. Asbestosis is an often-fatal lung disease produced by asbestos exposure.

Dr. Irving Selikoff, a leading expert on asbestos disease in workers, said the Japanese findings also worry him. "I find the presence of the bilateral pleural plaques most troublesome," said Selikoff, who heads the environmental sciences laboratory at Mt. Sinai School of Medicine in New York City.

In 1964 a research team headed by Selikoff produced a major study showing the harm to workers who handled asbestos. Selikoff said last week that he is doing another study among a small group of fiberglass workers to determine whether there are any dangers from that material. No results are ready from the study, he said.

Both Sloan and Selikoff said they were concerned as well with the rapid development of lung problems in the Japanese workers who were exposed since 1970. "What Dr. Sano is reporting are findings that are characteristic of asbestos exposure, only they are occurring quite a bit more quickly," Sloan said. Asbestos usually takes 20 to 30 years to cause cancer after workers are exposed to it, she noted.

A spokesman for the Owens-Corning Co. said in a telephone interview from the firm's Toledo, Ohio, headquarters that while Owens-Corning was aware of the Sano study, the firm had not yet obtained a copy. Owens-Corning is the nation's largest fiberglass producer.

"At this point we have only fragmentary information about it and we're not in a position to comment," the spokesman said.

Dr. John Konzen, medical director for Owens-Corning, said the study appeared to contradict other evidence developed by the company. "We have no evidence to support the contention that exposure to fiberglass causes cancer in humans," Konzen said.

According to the National Institute for Occupational Safety and Health, the federal occupational research arm, about 200,000 workers in the United States are exposed to fiberglass in the manufacturing of about 30,000 products. The amount of fiberglass insulation being manufactured has climbed since the Carter administration announced last year that it wanted to bring 36 million homes up to federal insulation standards by 1985.

Owens-Corning said that it produces about 1.6 billion pounds of fiberglass insulation material annually. In addition, the firm makes fiberglass that is used in everything from airplane insulation to soft-drink filters, a spokesman said.

In recent years researchers working with laboratory animals and very fine fiberglass fibers have been able to produce tumors in the lung linings of animals by surgically implanting the fibers. But while some cancer researchers have voiced suspicions that fiberglass may be a human carcinogen like asbestos, there have been no studies showing lung or lung lining tumors in humans from exposure to fiberglass.

Dr. David Bayliss, a biostatistician for NIOSH, said that a team of researchers he headed studied a group of workers at an Owens-Corning fiberglass factory in Newark, Ohio. Bayliss said his team did not find elevated cancer levels in the plant's workers but he said the fiberglass dust levels in the plant were so low that it was questionable whether the workers would really be considered an exposed group comparable to workers in other fiberglass plants.

Bayliss said, however, that one small group of 400 workers at the plant, who handled very fine fibers of fiberglass, showed slightly elevated lung cancer levels. Such fibers are not as readily cleared from the lungs as larger fibers appear to be, he said.

The Owens-Corning spokesman said less than 1 percent of the company's fiberglass production involved fine fibers. Konzen, the Owens-Corning medical director, called the Bayliss findings "of borderline significance" and said he questioned their accuracy.

The largest current study of fiberglass workers now underway is being conducted by the Thermal Insulation Manufacturers Association based in Mt. Kisco, N.Y.

Cliff Schekler, a spokesman for the association which represents fiberglass manufacturers, said the study will cover 15,000 fiberglass and mineral wool workers who handled the materials for more than a year between 1940 and 1965.

Schekler said preliminary reports on 6,000 of the insulation workers several months ago showed no elevated cancer levels for the workers above the general population.

"So far," he said, "we have not seen any disease we can relate to exposure to man-made fibers."