

RESULTS OF AN EXAMINATION OF 410 BUILDING WORKERS EXPOSED TO ASBESTOS DUST

K. FRÖSTRÖM

Bygghalsan, the Construction Industry's Organization for Working Environment, Safety and Health, Gothenburg, Sweden

ABSTRACT

The findings of an investigation of Swedish building workers are presented. Out of 3531 men examined 410 were exposed to asbestos dust for more than three months. Eleven employees had a varying degree of pulmonar alveolar asbestosis, and in 130 men bilateral pleural plaques were found. The occupational distribution in these 130 men is presented as well as the time of exposure and smoking habits. The importance of ceasing smoking is emphasized.

In Sweden there are about 200 000 men employed in the building and construction industry. A foundation named Bygghalsan, established in 1968 is concerned with occupational safety and health of the workers in this particular industry. The foundation provides medical and technological services with special attention to the health risks associated with the building and construction industry. A general medical examination is offered to every employee. The examination includes a detailed standard questionnaire with particular emphasis on chest complaints and smoking habits as well as the details regarding previous exposure to asbestos dust and silica dust. The total time of exposure to these dusts is estimated by specially trained nurses who, with the cooperation of the person examined, investigate the previous conditions of his working environment.

From 1975 onwards for all the employees whose total exposure to asbestos dust exceeded three months and also for those whose exposure to silica dust exceeded five years the general medical examination was extended by a spirometric test and an X-ray examination of the chest.

This paper is based on the findings of an investigation in workers exposed to asbestos dust in the Gothenburg district on the west coast of Sweden.

SAMPLE AND METHODS

In 1977 a total of 3 531 general medical examinations were performed. It was found that 410 employees had been exposed to asbestos dust for more than three months. These men were therefore referred to a chest X-ray examination.

X-ray examinations were performed at the Centre of Occupational Medicine by two independent specialists in occupational lung diseases.

RESULTS AND DISCUSSION

Eleven men showed to have a varying degree of pulmonar alveolar asbestosis. Altogether 130 cases of bilateral pleural plaques were detected most of which were uncalcified. All the plaques were found on the sites to be expected after exposure to asbestos dust. No cases of malignancy were revealed.

The occupations of the 130 men with pleural plaques were as follows: 44 carpenters, 24 pipe layers, 21 concrete workers, 12 electricians, 8 painters, 4 insulation workers, and 17 other occupations. It is interesting to note a wide range of occupations. The number of pipe layers and insulation workers is not very surprising. The total number of carpenters, concrete workers, electricians and house painters is of course higher than the number of pipe layers and insulation workers, but still we did not expect to find so many pleural plaques in these occupations.

In 63 subjects with pleural plaques the time of exposure was shorter than one year, in 52 men the exposure lasted between one year and five years and in the remaining 15 the exposure was longer than five years. The time elapsed since the first exposure was more than 15 years in all cases. All men were over the age of forty.

The analysis of smoking habits among the 130 men with pleural plaques revealed that 62 men were smokers, 44 ex-smokers, while 24 never smoked.

The results of the examination showed that about twelve per cent of the total number of men examined was exposed to asbestos dust. It seems reasonable to assume that this frequency is roughly the same in the building and construction industry in Sweden as a whole. This means that about 20 000 Swedish building workers have been exposed to asbestos dust to some extent. Especially for those who are cigarette smokers the risk of developing malignancy of the respiratory system is increased. From a medical point of view the main task should therefore be to try very hard to have men exposed to asbestos dust stop smoking.

All subjects included in the study were informed about the outcome of the chest X-ray examination. They were also informed about the potential risk of malignancy especially for those who are cigarette smokers. Soon an evaluation will be performed in order to see to what extent we have succeeded in trying to make the patients stop smoking.