

MALIGNANCIES—LIEBEN

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and eight had various other growths which included two abdominal cancers, one bladder cancer, two lymphatic leukemias, one acute leukemia, one lymphoblastoma, and one multiple myeloma. No cases of mesothelioma were in this group. There were four cases in former plant employees but these employees had been admitted to hospitals either prior to 1956 or after 1964 and because of that are not included in this study.

The diagnosis of the condition of these 21 patients had been established in 13 by autopsy, in four by operation, in two by biopsy, and in two by x-ray only.

The death certificates of all 21 were obtained. The malignancy diagnosis was reported on 15 death certificates. Six were signed out as follows: two as cardiac failure, one as coronary disease, and three as asbestosis. If death certificates alone had been utilized in this study, these six cases of malignancy would have been missed.

The smoking history of the 13 lung cancer patients revealed that five had never smoked, seven smoked, and in one case no smoking history was obtainable. Of the eight patients with other malignancies, three were cigarette smokers, two never smoked, and three were cigar smokers only.

Of the 21 patients with cancer, 13 had worked in the textile department of the plant only, for a sum total of 301 years. Four worked in the friction materials department for a total of 48 years. The department where one man had worked remains unknown and three others worked at various jobs which included both textiles and friction materials (Table 1).

Two of the 13 lung cancer and one of the lymphoblastoma patients had worked in the asbestos plant for a period of less than six months each, which is a rather short exposure. One wonders if this short exposure could have contributed towards their disease. Eighteen of these 21 patients had started work in the plant prior to 1940 and 12 had started work prior to 1920. Of the 21 patients with cancer 9 were between 50 and 60 and 12 were over 60 years of age (Table 2).

Comments and Conclusions

The incidence of malignancy in this selected group of hospital admissions with asbestosis was very high—21 out of 68. This is eight times higher than in the general

population 45 years of age and over, for the eight years of the study period.⁵

The incidence of 19% (or 16% if we do not consider exposures of less than one year) of lung cancer in this group of workers with asbestosis is comparable to that reported by Isselbacher¹ who summarized data of various authors and reported that of 603 persons with asbestosis, lung cancer was found in 83 (13.8%). It is also close to that reported in the literature review by Behrens⁶ who collected 44 cases of lung cancer (14%) in 309 patients with asbestosis.

Only three patients with these malignancies had their first exposure after 1940, when dust conditions had been much improved. A repeat study in the future may clarify whether this reduction of cancer occurrence in more recent employees is due to a latent period, to the age factor, or to the dust control measures instituted by the plant.

The patients with lung cancer were generally younger than those with cancers of other organs. Eight of those in the lung cancer group were under 60 and all eight of those in the other group were over 60 (Table 2).

Summary

A study of 68 hospital admissions with asbestosis from an asbestos textile and friction materials plant included 21 malignancies—13 of these were carcinoma of the lung and eight carcinomas of other organs. Eighteen of the patients had exposures to asbestos in their occupational environment for a period of 10 to 36 years. Only three patients had their first exposure after 1940.

Extensive dust control measures have been instituted by the plant.

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