

FILE NAME: New York State & NY Times (NY)

DATE: 1950

DOC#: NY007

DOCUMENT DESCRIPTION: Journal Article - NY Occupational Cancer Committee Presents a Program on Occupational Cancer

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OFFICIAL PUBLICATION of the AMERICAN ACADEMY of COMPENSATION MEDICINE

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VOLUME 3

SEPTEMBER-NOVEMBER, 1950

NUMBER 3

DEVOTED to the CARE of the ILL and INJURED in INDUSTRY

THE NEW YORK STATE OCCUPATIONAL CANCER COMMITTEE

PRESENTS A PROGRAM ON

OCCUPATIONAL CANCER

a challenge to the physician . . .

Sponsored by: Medical Society of the State of New York • New York State Department of Health • New York State Department of Labor

● We are indebted to the New York State Occupational Cancer Committee and its sponsors for making this information available.

introduction

IN THE PREVENTION of occupational diseases we have a fertile field to which the practicing physician can make a vital contribution in the course of his regular work. It is unique in that the data required cannot be developed in a research laboratory or in a university. It must come from the physicians who actually see cancer cases or cases of suspected cancer, either in their own private offices, in cancer-screening clinics, or in the hospital. It is thus a research problem of extraordinary importance practically made to order for the busy practitioner who is willing to devote the few extra minutes necessary to take a careful occupational history on his cancer patients; and report, for further investigation, cases suspected of having been exposed to carcinogenic agents in industry.

To assist the practicing physician in this matter, the New York State Occupational Cancer Committee has prepared this information. The table provides a few useful clues, including a list of the chemical substances and physical agents found in industry, which are, at the present time, suspected of having carcinogenic properties, and the types of cancer believed to be caused by them. Further study will, no doubt, add others to this list; some now on the list may very well be dropped as new data become available. The table of pre-malignant lesions, together with the occupational conditions with which exposure has associated them.

The nature of a tentative list is apparent on the basis of pres-

ent information. A copy of the form used by physicians in New York State, exclusive of New York City, for reporting cancer cases is also included.

If called upon by any physician interested in cooperating in this program, the New York State Occupational Cancer Committee is prepared to follow any suspected case of occupational cancer in New York State into the workroom where it is believed that it had originated, and to make all necessary technical investigations of the environmental factors which might have been responsible. Such investigations will include chemical analysis of materials, radiation measurements, chemical analysis of air contaminants in the form of dusts, gases, fumes, dust counts, or any other techniques as indicated. In thus tracing back the occupational exposures of cancer patients, it is hoped that occupational factors not now suspected of causing cancer will thereby be brought to light.

In New York State, the professional staff of the Division of Industrial Hygiene and Safety Standards may be called upon at all times for consultation and study of these problems in particular plants; the scientific evaluation of any health hazards which may be present, and practical assistance with control measures. All such requests should be addressed to Dr. Leonard Greenburg, Director, Division of Industrial Hygiene and Safety Standards, New York State Department of Labor, 80 Centre Street, New York 13, N. Y.

Early recognition of the possible occupational etiology of cancer will:

- give us information as to type of work the patient must avoid in the future.
- provide a basis for prognosis.
- make available, under State Compensation Laws, financial assistance to the patient and his family.
- establish statistical data as to incidence, distribution, and causative agents,—information which is practically non-existent.

THE medical profession is well aware of the extent to which lack of knowledge of the basic causes of cancer is responsible for the unsatisfactory state of our prophylactic and therapeutic approach to this problem. We do know that a causal relationship has been definitely established between cancer and exposure to certain chemical and physical agents in industry. Thus, exposure of the skin to certain types of oil, tar or pitch are known to cause skin cancer. On the other hand, epitheliomata of the bladder are definitely known to result from exposure to certain of the intermediates in the manufacture of aniline dyes, such as beta naphthylamine.

This small group of cancer cases for which an occupational etiology has been established thus offers a rather unique point of departure for the further study of this baffling disease. Too little attention has, however, been paid to these occupational cancers; too little is known of the environmental factors responsible for their production. An appreciable number of such cases have, no doubt, gone unrecognized as to occupational etiology.

This is true not only of occupational cancer, but of many other occupational diseases as well. It is a common fallacy to believe that occupational diseases have certain clinical earmarks which immediately suggest an occupational etiology, or even a specific occupational exposure; or that they present medical syndromes so distinctive as to clearly differentiate them from non-occupational diseases. This may occur, but it is relatively rare. Whether one is dealing with cancer or with other systemic diseases, such as hepatitis, nephrosis or aplastic anemia, resulting from exposure to toxic agents in industry, as clinical diseases entities, they provide no specific clues as to etiology. In many cases, the occupational etiology is unsuspected.

In order to acquire new data as to the environmental factors—suspected as well as unsuspected—which are responsible for cancer cases, it is necessary to know precisely what the patient's occupational exposure was; what chemical substances he came in contact with; what other environmental factors were present in the workroom.

Since cancer will usually develop only after a great many years of exposure, and even many years after exposure to an occupational carcinogen had ceased, the occupational history of the patient must be carefully studied all the way back to his first job. This is difficult. But it will be rewarding. At any rate, it is the only way to get the necessary data. Frequently, however, the patient will not know or remember the precise chemical substances, for example, with which he worked. Or he may forget to mention the only exposure which happens to be significant in his case. The names and addresses of the plants where the patient had worked are more readily obtained. This information alone can be a useful guide for a technical investigation of the patient's occupational exposure over the years.

The importance of the occupational history form thus cannot be overemphasized, since a complete occupational history is indispensable to developing any useful data with reference to occupational cancer. History taking, whether it is the clinical history or an occupational history, is very time-consuming. The occupational history, however, is less familiar to the medical practitioner and so it always seems to present the greater hurdle. For that reason, the suggested Occupational History Form has been made as simple as possible.

No matter how carefully and intelligently the case has been worked up, or how accurate the diagnosis, the possibility of an occupational etiology must not be overlooked. Recognition of an occupational etiology, where it exists, will provide invaluable information as to the type of work the patient must avoid in the future; it will provide a basis for prognosis; and it will make possible assistance to the patient and his family under the Compensation Laws of the State in which he lives, providing them with much-needed financial assistance during a period of disability.

Recognition of the occupational etiology of cancer cases, where it exists, will provide statistical data as to incidence, distribution, causative agents, etc., now practically non-existent. Very few people

realize how little reliable information there is, at the present time, as to the incidence of any of the occupational diseases.

Occupational cancers, as a rule, result from prolonged exposure to physical or chemical carcinogenic agents in the working environment. Such exposures may be continuous or intermittent over a period of many years. There may be a long latent period before the first evidences of cancer begin to manifest themselves. During all or part of this period, there may be no contact whatever with the carcinogenic agent originally responsible for the cancer. In the case of radium, for example, this latent period may be as long as 20-30 years.

Individual susceptibility probably plays an important role here as in all other diseases, occupational or non-occupational. No doubt, when more is known about the many metabolic and biochemical factors involved in cancer formation generally, it will be found that some of these same factors are operative in cases of occupational cancer.

It is a matter of great practical importance, for the present purpose, that the industrial environment is essentially a man-made artificial one peculiarly susceptible of scientific measurement and medical evaluation from the standpoint of hazards to health—including the production of occupational cancer as well as other occupational diseases. Of equal importance is the fact that these environmental factors in industry responsible

for injury to health, once recognized, can be successfully controlled. Fortunately, the techniques for the control of the industrial environment and the prevention of occupational diseases are highly developed at the present time.

As a guide to the physician who, for purposes of prevention, is interested in investigating the role of occupation in cancerous or pre-cancerous lesions presented by his patients, Tables I and II are appended; also a selected bibliography of literature having a direct bearing on these problems.

Table I presents a description of selected lesions which have been found, as a result of experience, to be associated with agents in the occupational environment which are known to be carcinogenic.

Table II lists, alphabetically, for reference purposes, some of the more common substances or conditions in the occupational environment which are recognized as being cancer-producing or suspect. With each such agent the organ or system usually involved, is presented together with a classification in the right-hand columns, indicating whether the etiological relationship is doubtful (Class D) or established (Class E).

The New York State Occupational Cancer Committee would greatly appreciate the cooperation of practicing physicians in reporting any information they develop as to the possible relation of occupation to the pathological lesions, malignant or benign, which they find in their patients.

The New York State Occupational Cancer Committee, an unofficial agency with the following membership:

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