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Malignant Mesothelioma

Epidemiologic patterns in New York State

NICHOLAS J. VIANNA, M.D., M.S.P.H.
JOSEPH MASLOWSKY, B.A.
SCOTT ROBERTS, B.S., B.A.
GARY SPELLMAN, B.S.
RUSSELL B. PATTON, B.S.
Albany, New York

From the Bureau of Environmental Epidemiology and Occupational Health, State of New York Department of Health

The association between asbestos exposure and malignant mesothelioma is well established, particularly among certain occupational groups such as asbestos miners, insulation, shipyard, and textile workers.¹ Nonoccupational exposure to this mineral might also be an important factor.²⁻⁴ Although this highly fatal tumor must be considered a rare manifestation of exposure to a relatively common agent, the spectrum of asbestos-associated diseases include pneumoconiosis, lung cancer (in smokers), and possibly gastrointestinal cancer.⁵ Thus, malignant mesothelioma represents an important signal lesion—a rare disease caused by an agent which is etiologically associated with more common disorders. This report examines the geographic distribution of malignant mesothelioma in New York State, with particular emphasis on the epidemiologic characteristics of those areas with the highest incidence rates.

Methods

Incidence study. This investigation included all cases of histologically confirmed malignant mesothelioma (histology code 905) diagnosed in New York State, excluding New York City, reported to the tumor registry of the Cancer Control Bureau, New York State Department of Health, from 1973 through 1978. Patients from New York City were excluded because cancer reporting from this area was not instituted until 1973, and at present reported investigation is incomplete. Using population estimates for the year 1975,* ten-year age-specific incidence rates

* Office of Biostatistics, State of New York Department of Health.

A study of malignant mesothelioma in New York State, excluding New York City, suggests that there was no increase in the incidence of disease from 1973 through 1978. The highest rates for this tumor were observed in 6 rural counties, and farmers, talc miners, and paper workers were the most common occupations involved. Certain other highly industrialized counties in close proximity to major waterways also had higher incidence rates than the State as a whole.

and sex ratios (male rate to female rate) were calculated for all patients reported with this disorder during the six-year study period, and separately for the pleural and peritoneal sites. The same denominator was used to calculate an average incidence rate for the State (excluding New York City), and for each county in the study area. Counties with high rates were defined as those with twice the average State rate. Time trends were also calculated using yearly population estimates from 1973 through 1978.*

Descriptive study. The first phase of this investigation attempted to obtain occupational information from death certificates on all male patients included in the incidence study who died from 1973 through the present in New York State, excluding New York City. Asbestos-related occupations were defined as those listed in "Work is Dangerous to Your Health"⁶ and by the National Institute of Occupational Safety and Health.⁷ Using this information, the occupations of male patients who died of malignant mesothelioma were categorized as asbestos-related or not.

For male and female mesothelioma patients diagnosed and reported from 1968 through 1978 in counties with high rates, interviews were conducted with either the patient or, in the event of death, a first-degree relative. Detailed information was obtained on both occupational histories and other potential sources of asbestos exposure. Indirect exposure was defined as residing in a household prior to diagnosis with a spouse, parent, or other family member who worked in an asbestos-related occupation.

Results

Incidence study. There were a total of 288 patients (193 males and 95 females) diagnosed in New York State (excluding New York City) and reported