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EPIDEMIOLOGIC NOTES AND REPORTS

ANGIOSARCOMA OF THE LIVER – Connecticut

From January 1935 through December 1973, 8 cases of angiosarcoma of the liver were reported to the Connecticut Tumor Registry; the diagnosis of hepatic angiosarcoma has been confirmed in 6 of these cases by pathologists at the National Cancer Institute.

One case was diagnosed in 1950, 1 in 1967, and 4 in 1972 and 1973. The 1950 case occurred in a resident of north-central Connecticut, while the 5 more recent cases were found in residents of 4 closely adjacent communities in the southwestern portion of the state (Figure 1).

Two of the patients appear to have had occupational exposure to polyvinyl chloride (PVC). One, a 47-year-old man diagnosed in January 1973, had been employed for the 10 preceding years as an accountant in a factory which produces vinyl sheets and processes PVC resins; it is reported that he frequently visited the production area of the plant. Another patient, a 61-year-old man diagnosed in June 1973, had worked from 1933 through 1971 in an electrical products manufacturing concern, and from 1938 through 1963 he had operated

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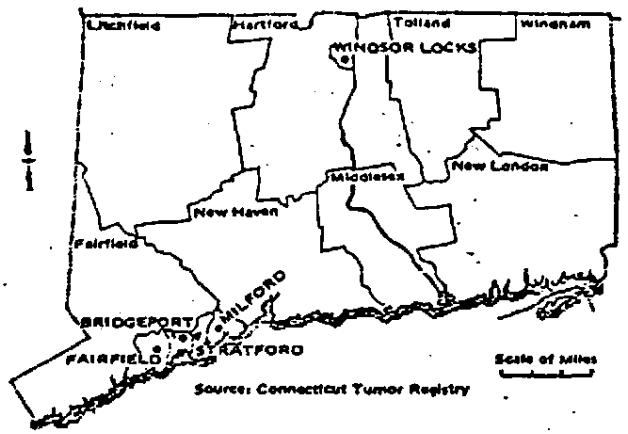
Figure 1
CASES OF ANGIOSARCOMA OF THE LIVER
BY PLACE OF RESIDENCE
CONNECTICUT – 1935-1973



machinery there which applied plastics containing PVC to wires as insulating material.

Another 2 patients who had no occupational exposure to PVC had been long-time residents of the Bridgeport-Stratford area. One of these was a 73-year-old man, diagnosed in 1967, who had lived his entire life within 2 miles of the electrical products factory mentioned above. He had worked as a firefighter from 1917 to 1942, as a metal worker from 1942 to 1944, and as a corset cutter from 1945 until his retirement in 1961; additionally he had a history of chronic alcohol ingestion. The other resident was an 83-year-old woman, a housewife and retired cook, who was diagnosed in December 1973. She had lived for 35 years within 1/2 mile of the vinyl products plant.

There was no history of occupational or of potential community exposure to PVC for the 2 remaining patients. One was a housewife in north-central Connecticut, the other an unemployed, disabled man with chronic alcoholism who had moved to Connecticut from New York City 4 months before his diagnosis in May 1973. None of the 6 confirmed patients had known exposure to thorium dioxide *(1)* or to arsenical compounds *(2)*, 2 materials known specifically to induce angiosarcoma of the liver in man. By history, none had excessive exposure to aerosol sprays. None had a past history of hepatitis. Two had histories of alcoholism, as noted, but none are known to have taken other potentially hepatotoxic drugs or medications.

(Reported by Barbara W. Christine, M.D., Chief, Chronic Disease Control Section, Harold S. Barrett, M.D., Deputy Commissioner of Health, and Douglas S. Lloyd, M.D., Commissioner of Health, Connecticut State Department of Health; the National Institute of Occupational Safety and Health, and the Cancer and Birth Defects Division, Bureau of Epidemiology, CDC.)

Editorial Note

Recent reports *(3,4)* have described 13 cases of angiosarcoma of the liver among men engaged in the synthesis of PVC from vinyl chloride monomer (VCM). There is evidence to suggest that VCM may have been the cause of hepatic angiosarcoma in those cases *(5,6)*. In the present series 2 cases of hepatic angiosarcoma are described in men who had no known exposure to VCM, but who did work with PVC. While these findings establish no causal connection between exposure to PVC and angiosarcoma of the liver, they do raise the possibility of such a relationship. Further studies throughout the nation will be needed to define the possible risk factors in persons who have worked with PVC.

The additional finding in this study of angiosarcoma of the liver in 2 persons who had no occupational exposure to vinyl chloride, but who may have had community exposure, is also worrisome but again establishes no causal connection. It might be expected on the basis of data from the Third National Cancer Survey that approximately 4 cases of angiosarcoma of the liver would occur in Connecticut in a 10-year period and that approximately 0.6 cases would occur in the 4 previously mentioned communities in southern Connecticut during the same interval. Epidemiologic investigation of additional cases of hepatic angiosarcoma that may be found to have had possible community exposure to vinyl chloride will be necessary to clarify the significance of these cases.

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The data in this report are provisional, based on weekly telegrams to CDC by state health departments. The reporting week concluded at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting outbreaks or case investigations of current interest to health officials.

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