Mesothelioma and Asbestos Exposure

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WITHIN the past five years several articles have called attention to the association between mesotheliomas of the pleura and peritoneum with asbestos exposure.[1-8]

Wagner et al[4] studied 33 cases of mesothelioma. All but one had probable exposure to crocidolite, the blue asbestos.

Asbestos has become a ubiquitous material in our civilization. Cauna et al[5] reported that asbestos bodies were found in the lung smears of 41% of 100 consecutive autopsies at the Presbyterian University Hospital in Pittsburgh. Similar findings were reported by Thompson[6,7] in 500 consecutive lung smears from Capetown, South Africa, and Miami, Fla. Asbestos bodies were found in 30% of the men and 20% of the women. Asbestos has been conclusively associated with increased incidence of lung cancer and other malignancies[8,9] and an increasing number of studies associate its presence with malignant mesothelioma of the pleura and peritoneum.

Pathology

Mesotheliomas of the pleura and peritoneum are rare neoplasms. Controversy involves histological types, nomenclature, origin, and their very existence. Recently, mesotheliomas as an entity have become generally accepted. Their morphologic variability makes classification difficult and differentiation from other malignancies is often a problem.

Sacconi and Coblenz[10] give the incidence of pleural mesotheliomas as 1.1 cases per 1,000 autopsies. Campbell reported four cases of pleural mesotheliomas in 3,533 consecutive autopsies.[11]

Mesothelioma occurs primarily in adults and is twice as common in males as in females.[10,12]

Pleural mesotheliomas occur equally on the right and left though Weissman feels that pleural mesothelioma occurs on the right more frequently than on the left side.[12]

The criteria for diagnosis of pleural mesothelioma are presence of a firm pleural mass encasing the lung, histological structure compatible with mesothelioma, and absence of a demonstrable primary malignant neoplasm elsewhere. The histologic architecture may be mesenchymal, "epithelial," or mixed.

A complete autopsy is necessary for unequivocal diagnosis, but for the purpose of this study, criteria were made less rigid in that unautopsied cases were accepted if a definite diagnosis of pleural mesothelioma had been made by biopsy, and malignancy elsewhere had been excluded clinically; chest x-ray examination, bronchoscopy, and cytologic studies of sputum or bronchial washing assisted in excluding the presence of bronchial carcinoma.

Primary tumors of the peritoneum are among the rarest of tumors. Generally called mesotheliomas, they form large spreading masses over the peritoneum and histologically appear the same as pleural mesotheliomas. As with pleural mesotheliomas, exclusion of a primary tumor is necessary.

This study is an attempt to learn the extent of the relationship of asbestos exposure with mesothelioma diagnosed in southeastern Pennsylvania.

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