Method

One hundred and sixty-two hospitals serving a population of 6½ million people were requested to report all mesotheliomas diagnosed between 1958 and 1963. Replies were received from 152 hospitals. Hospital records of 62 reported cases were reviewed and only mesotheliomas confirmed by operation, biopsy, or autopsy were included in the study. Forty-two cases satisfied our critera. There were 34 mesotheliomas of the pleura and eight of the peritoneum. Among the pleural mesotheliomas there was a definite preponderance for occurrence on the right side of the chest. Of 34 pleural mesotheliomas only seven occurred on the left side, 25 on the right side, and two were not stated.

Sections of as many of the tumors and lungs as possible were borrowed and reviewed by a single consultant pathologist familiar with mesotheliomas. In the 15 instances in which lung sections were available, they were examined for the presence of asbestos bodies. All slides were reviewed without the benefit of the complete history and autopsy protocol available to the pathologists who made the original diagnosis.

Results of the 33 cases reviewed (Table) by our pathologist agreed with those of the outside pathologists in 17 cases; he rejected seven cases as unacceptable histologically, had serious doubts in nine cases (of these one slide was read as metastasis and one slide as anaplastic malignancy). Of the 15 cases in which lung tissue was available, asbestos bodies were identified in seven.

The discrepancies between the original pathological diagnosis and that of our pathologist are reported to illustrate the difficulties and disagreements which are so frequent in the diagnosis of this tumor. For inclusion in this study the diagnoses of the originally reporting pathologists have been accepted and cases reported by them were investigated.

Efforts were made to obtain a complete employment and residence history for each patient. Inquiry was also made into the employment history of family contacts. Data were obtained from the individual if alive, from family members, or employers.

Of the 42 patients, ten had definite occupational exposure to asbestos during lifetime, three were family contacts of asbestos workers, eight either lived in the immediate neighborhood of asbestos plants or had been employed next to an asbestos plant. Ten patients had a questionable asbestos exposure and, in the other 11 patients, either no asbestos exposure could be elicited on direct questioning or no survivor could be located.

Table 1.—*Readings of Consultant Pathologist*

Case No.	Mesothelioma	Asbestos Bodies
1-O	Yes	No lung tissue
3-O	Not acceptable	Yes
4-O	Probably not	No lung tissue
5-O	Yes	Yes
6-O	Probably not	Yes
9-O	Probably not	No lung tissue
10-O	Yes	Yes
2-N	Yes	No lung tissue
3-N	Probably not	No lung tissue
4-N	Not acceptable	No lung tissue
6-N	Yes	No lung tissue
1-F	Yes	No lung tissue
2-F	Yes	No lung tissue
3-F	Yes	No lung tissue
1-Q	Probably not	No lung tissue
2-Q	Yes	Yes
4-Q	Yes	No
5-Q	Probably yes	No
6-Q	Not acceptable	No
7-Q	Yes	No lung tissue
8-Q	Yes	No
9-Q	Probably not	No
10-Q	May be Metast	No
1-X	Yes	Yes
2-X	Yes	No lung tissue
3-X	Not acceptable	No lung tissue
4-X	Not acceptable	No lung tissue
5-X	Anaplastic malignancy	No
6-X	Probably not	No
7-X	No epithelial cells Mesothelioma must be proven	No lung tissue
8-X	Probably not	No lung tissue
9-X	Yes	No lung tissue
10-X	Yes	Yes

Exposure of Ten Mesothelioma Patients Who Worked With Asbestos.—Patient 1-0 worked 35 years in the textile department of a large asbestos plant.

Patients 2-0, 3-0, and 4-0 worked more than 20 years in asbestos insulation plants and patient 5-0 worked in an insulation plant for only one year.

Patient 6-0 worked 15 years in a plant manufacturing acoustic tile and linoleum.

Patient 7-0 was a boiler maker in a railroad yard where, for 25 years, he worked on insulation of steam engines.

Patient 8-0 built bakery ovens in which large amounts of asbestos insulation were used.

Patient 9-0 was a certified accountant who worked more than 30 years in the office of an asbestos textile plant.

Patient 10-0 was a plasterer who came in contact with a large amount of asbestos in his work.

Of these ten men, patients 1-0, 8-0, and 10-0 had mesotheliomas of the peritoneum; the other seven men had pleural mesotheliomas.

Neighborhood Cases.—Patient 1-N was a 55-year-old woman who never had any occupa-