LETTERS TO THE EDITOR

Peritoneal Mesothelioma—How a Good Occupational Case History Can Best Be Used

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Peritoneal mesothelioma is a rare disease. It is difficult to diagnose during life because the clinical picture is relatively non-specific and the disease is therefore often mistaken for abdominal carcinomatosis. Diffuse mesothelioma of the serosal surfaces should be considered as an index tumour of occupational exposure to asbestos dust. However, internists, surgeons or gynecologists who first see patients with abdominal distention, ascites and sometimes with abdominal pain, seldom think they may be caused by an occupational disease. To review what we know about how such symptoms are related to occupational disease the author examined 9 cases of peritoneal mesothelioma, observed in the Dresden area (Germany) in the course of the last ten years, and declared to be cases of occupational disease.

Case 1.—H. W. worked as a brewer from the age of 15. During the first 6 years in this job he had make so called beer filters made of asbestos fibres and cottonwool. After a latency period of 44 years, the man died of diffuse mesothelioma of the peritoneum, which was confirmed by necropsy. Histologically it was of an epithelial type. The lungs showed no evidence of fibrosis, nor were there hyaline plaques in the pleural cavities.

Case 2.—A. Sch. began to work in 1940, at the age of 24, in an asbestos factory as a carder and fitter. He worked there for six years until 1946. In 1980 asbestosis of the pleura and lungs was diagnosed and declared to be an occupational disease. In 1986 he died of peritoneal mesothelioma. Necropsy revealed mesothelioma with an epithelial pattern and asbestos bodies could be seen in the mesothelioma! Both lungs showed subpleural fibrosis with asbestos bodies and pleural cavities were obliterated.

Case 3.—H. W. was exposed to asbestos dust during 11 years as a mixer and puncher in an asbestos factory. His exposure began at the age of 31. Chest X-rays showed asbestosis of the lungs in 1953, five years after he had had this job. In the same year he was declared to be a case of occupational disease. After a latency period of 44 years he fell ill with “abdominal carcinomatosis”. Severe asbestosis of the lungs, calcified pleural plaques and numerous asbestos
bodies were demonstrated by necropsy. Diffuse peritoneal mesothelioma with an epithelial structure was recognized.

Case 4.—E. M., an unskilled worker in the building industry, was engaged in drilling and cutting up asbestos wallboards from 1963 to 1976. He was 53 years old at first exposure. He died in 1980 after a latency period of 17 years. The cause of death was a diffuse peritoneal mesothelioma, histologically of epithelial type. There were no evidences of lung asbestosis or asbestos bodies.

Case 5.—G. G. was exposed to filter-paper and talcum containing asbestos in a pharmacological factory from 1949 to 1971. In 1949 he was 34 years old. In 1884 a peritoneal mesothelioma was diagnosed by laparoscopy. Necropsy was not carried out. There were no signs of asbestosis.

Case 6.—L. O. She had worked as a carder and spinner in an asbestos factory for 11 months from May 1918 to April 1919. She began her job at the age of 18. In 1956 asbestosis of the lungs was diagnosed and declared to be an occupational disease. She died of an abdominal tumour after a latency period of 62 years. Histologically diffuse peritoneal mesothelioma was demonstrated. Furthermore asbestosis of the lungs and hyaline pleural plaques, as well as asbestos bodies in the lungs, were seen.

Case 7.—G. Z. had worked as an asbestos-twister since 1946 for 13 months. She fell ill with an abdominal tumour in 1985. Laparotomy was carried out. Diffuse peritoneal tumour was found. Liver and stomach were infiltrated. Histologic examination of the biopsy taken from the tumour showed differentiated peritoneal mesothelioma. Necropsy confirmed the epithelial type of the mesothelioma. Asbestosis of the lungs was not ascertained.

Case 8.—H. B. was exposed for 10 years doing various jobs in an asbestos factory. The exposure began in 1926 at the age of 18. She died in 1985. Necropsy revealed a peritoneal mesothelioma of sarcomatous type and asbestosis of the lungs. There were no signs of asbestos bodies.

Case 9.—E. Sch. was exposed for 1 year, from 1927 to 1928, to talcum containing asbestos used as a parting compound in the manufacture of sweet-meats. In 1927 she was 15 years old. After a latency period of 55 years she died of peritoneal mesothelioma of epithelial type. The lungs showed fibrosis with asbestos bodies in both lower lobes. Furthermore the pleural cavities were obliterated.

Until recently, malignant mesothelioma of the pleura or peritoneum was a rarely diagnosed tumour. Today mesothelioma of the pleura is diagnosed more frequently than that of the peritoneum. Therefore, scientific papers about pleural mesothelioma are abundant, while they are not so numerous for peritoneal
mesothelioma. There seem to be at least two reasons for this. First: Peritoneal mesothelioma is difficult to diagnose during life and can only be confirmed by pathologic-anatomical examination. It is often difficult to distinguish it from the more frequent abdominal carcinomatosis with primary tumour elsewhere in the body or ovarian cancer. In most cases, it can be diagnosed only by necropsy. Second: Peritoneal mesothelioma seems to be underreported in death certificates. That is to say, we do not know the real number of deaths due to this disease.

It is widely accepted that the carcinogen concerned in mesothelioma is asbestos. However, other authors, however, have observed patients who developed a malignant peritoneal mesothelioma after radio-therapy for seminoma of the testis or in association with recurrent peritonitis.

In all cases, a complete occupational case history should be drawn up as regards exposure to asbestos dust. One should take one’s time when questioning the patients, especially elderly people. The very long latency period varying from 17 to 62 years, like in the above cases, makes it more difficult to discover a possible aetiological relationship between job and disease. It is very often necessary to elucidate what the nature of some jobs was because at first sight they seem to have nothing to do with exposure to asbestos. Examples of this are cases no. 1, 5 and 9. The evidence of asbestosis, pleural plaques or asbestos bodies facilitates a well-defined statement, also in cases with a short time of exposure (cases 6 and 9). On the other hand it becomes difficult if such signs are absent and the personal history is not demonstrative (see cases 1 and 4). The author therefore suggests that the possibility of an occupational disease in patients treated for “abdominal tumour” be borne in mind and that, if necessary, a specialist in occupational medicine be consulted.

References

9) Stock RJ, Fu YS, Carter JR. Malignant peritoneal mesothelioma following radiotherapy for

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