

CLINICAL ANALYSIS OF 19 PATIENTS WITH PLEURAL MESOTHELIOMA

DOU Jianming 窦建明,¹ PANG Qingshu 庞庆恕,² LIU Dongxing 刘东兴¹

¹ Department of Respiratory Medicine, Shandong Provincial Hospital, Jinan 250021, China;

² Yinshan Center Hospital, Dongping County, 271513, Shandong Province, China

ABSTRACT

Objective: To summarize the experience in the diagnosis of mesothelioma. **Methods:** Analyzing the clinical data of 19 patients with pleural mesothelioma, including age, history of exposure to asbestos, clinical manifestations, imaging and laboratory examinations and metastases. **Results:** None of the 19 patients had a history of exposure to asbestos. Eight cases (42.1%) had no obvious thoracodynia, 9 cases (47.4%) had pleural effusion limited to the right chest, and in 2 cases (10.5%) the brachialis plexus was involved, and in 1 case (5.3%) malignant mesothelial cells were detected in the pleural effusion. Pleural thickening or nodules were found in 13 cases on CT and in 9 cases by B ultrasonographic examination. **Conclusion:** Exposure to asbestos is not the only cause of pleural mesothelioma. Chest pain is not always associated with pleural mesothelioma. CT and B ultrasonography are a help in the diagnosis of pleural mesothelioma.

Key word: Pleural neoplasms, Mesothelioma, Metastasis, Diagnosis

In number, 4173 patients who suffered from respiratory disease were hospitalized in the Department of Respiratory Medicine from June 1992 to October 1997 including 304 patients with pleural effusion. Among them, there were 19 patients with pleural mesothelioma, which accounted for 0.5% of the total or 6.2% of the patients with pleural effusion.

CLINICAL DATA

General data

All of the 19 cases were diagnosed with

thoracoscopic biopsy; 13 patients were males, and 6 were females. Their ages ranged from 22 to 73 years, with an average of 50.8 years. The history of their disease ranged from 20 days to 2 years. None of them had a history of exposure to asbestos.

Clinical Manifestation

Seven patients had only thoracodynia as their main complaints, 6 patients only had dyspnea, 4 had thoracodynia and dyspnea, 2 had right arm extreme pain and dyskinesia. 6 patients had accompanying fever, 2 had bloody sputum, and 1 had axillary and umbilical lump. None of the 19 cases had pulmonary osteoarthropathy or clubbed finger.

Image Examination

17 cases of pleural effusion were found with X-ray examination; 6 of them were sinistral, 9 were dextral, and 2 were bilateral. 8 patients had copious effusion, 5 had moderate effusion, and 4 had only little effusion. The tubercal lesion or pleural hypertrophy was found with ultrasonography in 9 patients. CT exam found 13 patients with wide-fundamental soft tissue near the pleurum which were confirmed histologically as mesothelioma and with thoracoscopic biopsy, 6 of the 13 cases were solitary and 7 were diffuse.

Laboratory Test

15 patients underwent pleural fluid examination; all the fluids were exudation, 13 were bloody, 2 were yellow turbid, 4 were sticky with clot, and only 1 specimen had malignant mesothelial cell.

Metastasis

Five patients were found metastasis in the lung, two cases in the supraclavicular lymph node, one case in the axillary lymph node, two cases in the rib, three cases in the mediastinum lymph node, four cases in the liver, five cases in the peritoneal lymph node. One

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Correspondence to: Dou Jianming, Department of Respiratory Medicine, Shandong Provincial Hospital, Jinan 250021, Shandong Province, China; Phone: (0086-0531)-7938911.

case was found in the retroperitoneal lymph node, one case in the umbilical skin.

DISCUSSION

Pleural mesothelioma is a rare primary pleural neoplasm with high mortality, which origin is pleural mesothelial cell. It's difficult to diagnose the disease, and the misdiagnosis rate is rather high.

Since 1960's, it has been generally noticed that the exposure to asbestos has a strict relationship with pleural mesothelioma. But Huncharek,^[1] on the basis of a comprehensive epidemically investigation, concluded that, the professional risk of this disease existed not only in asbestos miner or asbestos manufacturer, but also in the workers of vehicle restrain, railroad, insulator industry, pipeline installation and shipbuilding. Antman, et al.^[2] found that many other reasons could lead to pleural mesothelioma, such as nitrosamine, glassfiber, radiation, thorium oxide, zeolite, beryllium, prussic acid and other pulmonary disease including TB and chemical or lipid inhalating pneumonia.

None of our 19 patients had obvious history of exposure to asbestos, which illustrating that pleural mesothelioma may have other reasons.

Previous studies have shown that the most common symptom of mesothelioma was thoracodynia 60%-80%,^[3,4] and the right chest pain was more common. 8 (42.1%) of 19 patients had no obvious thoracodynia, 9 (47.4%) of 19 patients had only right pleural effusion. From these results it is concluded that chest pain dose not always associated with mesothelioma. Attention must be paid to pleural effusion without thoracodynia, bilateral effusion, pleural hypertrophy or TB lesion without effusion.

It must be noted that the two patients with bloody sputum were confirmed to lung metastasis by CT exam. For such case is easy to be misdiagnosed as pleural metastasis of lung cancer.

Two patients with right arm extremity of pain and dyskenesia were finally diagnosed as pleural mesothelioma. The thoracoscopic examination found that the tumor located rather high in the pleural cavity, which indicating the above symptom is due to the compression on brachial plexus. It is a rare phenomenon that the symptom of compression appeared before the primary symptom of the tumor.

As a commonly used diagnostic approach the malignant mesothelium in hydrothorax only had a positive rate less than 30%^[5] Malignant mesothelium was found only in one of the 19 patients, which indicating the positive rate of this approach is rather low, and it's necessary for percutaneous pleural biopsy or thoracoscopic exam to determine the diagnosis. Pleural hypertrophy or tubercle was found in 9 of 19 patients (47.4%) with ultrosonography. Pleural tubercular lesion was found in 13 of 19 patients (68.4%) with CT. The results suggest that ultrasonography and CT is indicative for the diagnosis of pleural mesothelioma, but differential diagnosis with pleural metastasis tumor must be done histologically.

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