

A Case Report of the Pleural Aspergillosis

Shigehiko Itoh,* Hisakuni Ohe,* Akihiro Nakamura,* Masahiko Yoshimoto,** Yasuharu Masuyama,** Nobuharu Ohe**

Department of Surgery* and Internal Medicine** Kikakyushu City Yahata Hospital, Kitakyushu.

Summary: A case of pleural sapergilosis, which is a relatively less common pulmonary aspergillosis, is reported. A 31-year-old male patient was admitted for right pneumothorax with pleural fluid. Having complication of multiple bulla at the apex pulmonis, he underwent resection of partial lung and thickened pleura. Examination result of cultured pleural fluid was negative. However, intrapleural aspergillosis was histologically recognized, hence a diagnosis of pleural aspergillosis was made.

Introduction

Compared with other types of pulmonary aspergillosis, pleural aspergillosis is less common and mainly causes pleurisy and accounts for pleura fluid. Most pleural aspergillosis cases develop in pulmonary tuberculosis or lung carcinoma after surgery. Our recent experience of a case of pleural aspergillosis is presented along with literature references.

Case Report

A 31-year-old male was admitted to our hospital for the exertional dyspnea. On past history, he had undergone conservative therapy for left pneumothorax in 1984, and surgery for recurrence of left pneumothorax in a 1986.

On physical examination, he was 170 cm tall and weighed 52 kg, leptosome. Blood pressure: 110/70, pulse: regular, body temperature: 36.8 °C, weak respiratory sound at the right superior lung field noted by auscultation. No superficial lymph node was found by palpation.

There were no abnormalities detected by hematological and biochemical examinations.

Simple rentogenologic examination of chest (Fig. 1.): Pleural effusion and pneumothorax with air fluid level localized in the right superior lung field was noted. At the same time multiple bulla was observed in the superior lung field.

Computed tomography of the chest (Fig. 2.): In the multiple bulla occupying one third of the right thoracic

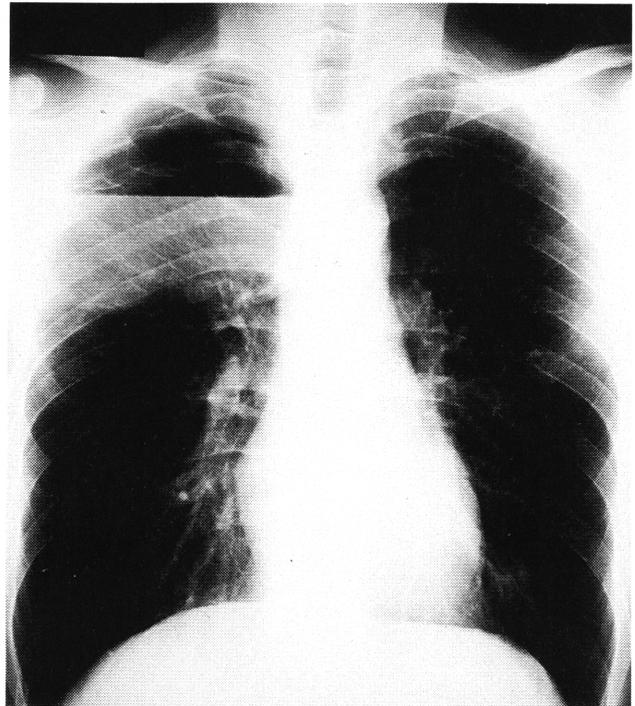


Fig. 1. Posterior-anterior roentgenogram of chest

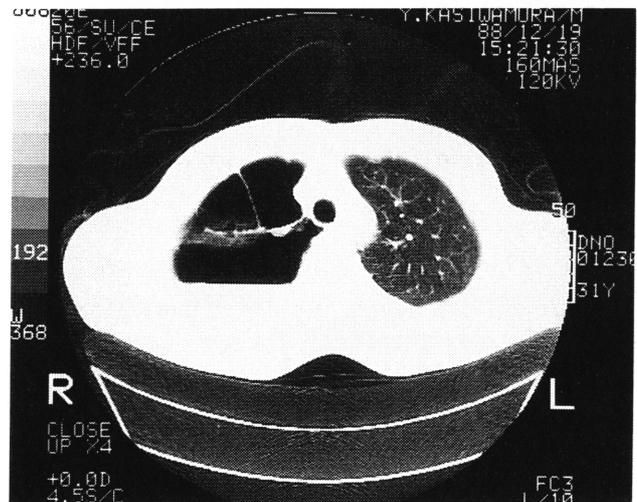


Fig. 2. Computed tomography of the chest

cavity and in the posterior mediastinum, retention of pleural effusion was observed. No calcification of pleura was indicated.

Pulmonary perfusion scintigram (Fig. 3.): At the apex pulmonis, perfusion defect affected by the bulla was observed. Also, the left supero-lateral part of the lung showed a slight hypoemia which may have been caused by surgery.

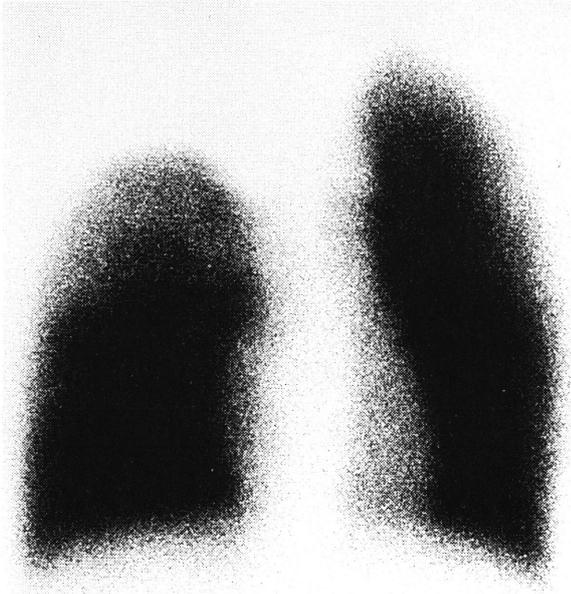


Fig. 3. Pulmonary perfusion scintigram

Surgery was performed on January 4, 1989, for bullectomy and pleural fluid drainase. With axillary incision, resection of the intercostal muscle at the 4th intercostal region revealed parietal pleura being extremely thickened. Parietal pleurotomy was performed, and the internal cavity appeared to be saped like a bag up to the superior and inferior lobes with yellowish brown cloudy fluid inside (Fig. 4). Visceral pleura was also slightly thickened. Thickened pleura was resected, the pleural fluid was drained, and by using GIA the bulla was resected several times. The pleural fluid sampled during the operation and subjected to bacterial culture presented negative result.

Histologically, visceral pleura presented inflammatory thickening, and among the inflammatory cells a large number of aspergillosis hyphae were observed. Pleural sapergillosis was our diagnosis induced from the above findings (Fig. 5).

For the past 4 and a half postoperative years, the patient has developed no pleulsy of emphysema.

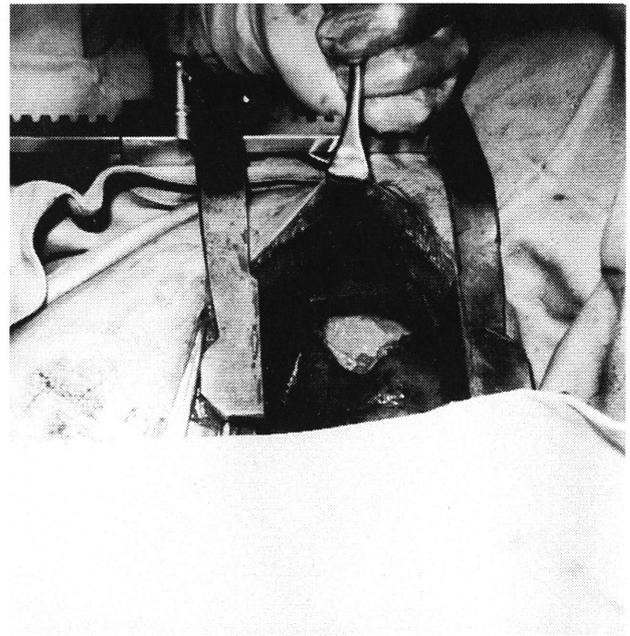


Fig. 4. Thickened pleura and cavity at surgery



Fig. 5. Microscopic appearance of resected parietal pleural

Discussion

Most bronchopulmonary aspergillosis cases are either those which basically had chronic pulmonary disease such as pulmonary tuberculosis or bronchiectasis, or those which had a lowered host resistance due to cancer or administration of predonine.¹⁾ Most had either fungus ball or pulmonary type onset, and pleural or postoperative bronchial stump cases have been rare. The majority of the pleural aspergillosis caese reported so far had undergone lung resection for pulmonary tuberculosis or lung cancer.^{2,3)} For diagnosis, mycological examination of the fluid sampled by puncture and biopsy tissue test of pleura have proved to be effective. In addition, Castello et al.⁴⁾ described that in cases where (1) a persistent postoperative air fluid level and (2) a

markedly thickened pleural space with or without pleural fluid are present by CT, the possibility of pleural aspergillosis should be considered. Whether or not the patient had pulmonary tuberculosis and surgery for lung cancer is a very important anamnesis.

The case we reported here had undergone surgery for pneumothorax on the lung other than one infected by aspergillosis, but he had no tuberculosis or asthma, etc. Therefore, it is assumed that the aspergillosis which infected a part of multiple bulla caused pneumothorax, thereby invading into thoracic cavity. Even with the cases where lowered host resistance is highly improbable, the possibility of aspergillosis infection should be considered pneumothorax with pleural fluid retention.

Reference

- 1) Minoru Ouchi, Naoki Hagimoto, et al.: Pleural aspergillosis. *Jpn J Chest Dis*, 50:144-149, 1991. (Japanese)
- 2) Y. Hayashi, et al.: A case of multiple pulmonary bronchogenic cysts accompanied with aspergillosis and secondary pyo-pneumothorax. *Jpn J Thoracic Surg*, 40:580-583, 1987. (Japanese)
- 3) Hirotsugu Sawazaki, Kazuo Horie, et al.: Surgical treatment of the bronchopulmonary aspergillosis. *Jpn J Chest Dis*:401-412, 1967. (Japanese)
- 4) Philip Costello, Richard M. Rose: CT findings in pleural aspergillosis. *J Computer Assisted Tomography*, 9:760-762, 1985.