Case report

A case of giant benign localized fibrous tumor of the pleura

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Abstract

A 60-year-old man had noted exertional dyspnea and left anterior chest pain. A chest roentgenogram showed the presence of a giant mass and computed tomography (CT) of the chest confirmed the mass with an inhomogeneous density in the left hemithorax. A transbronchoscopic TruCut needle biopsy of the mass showed benign fibrous tissue. The patient underwent a thoracotomy. A tumor arose from the visceral pleura of left lower lobe and pediculated. Size of the tumor was 19 × 18 × 7 cm and weighed 1500 g. It was successfully resected. The pathological diagnosis of the tumor was benign localized fibrous tumor of the pleura.

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1. Case report

Localized fibrous tumors of the pleura are rare neoplasms. Previously these tumors have mostly been classified as localized mesotheliomas of the pleura, either benign or malignant [1]. Pleural fibrous tumors are generally malignant and are associated with asbestos exposure, but benign tumors do occur. The cell origin of these tumors is a non-committed mesenchymal cell present in the areolar tissue subjacent to the mesothelial cells of the pleura [1]. We report the case of a patient with localized fibrous tumor of the pleura, which is notable for its rare massive size.

A 60-year-old male patient complained of exertional dyspnea and left-sided chest pain at the time of admission to hospital. PA and lateral chest roentgenograms showed presence of a giant mass and computed tomography (CT) of the chest confirmed the mass to have an inhomogeneous density and irregular central calcification in the left hemithorax (Fig. 1). Hemogram and biochemical findings were normal. At physical examination breath sounds were absent on left lower zone. Bronchoscopy showed extrinsic compression at the level of left lower lobe bronchus. Spirometry showed restrictive pulmonary defect with a vital capacity of 1500 cm³. A transbronchoscopic TruCut needle biopsy of the mass showed benign fibrous tissue.

Left posterolateral thoracotomy was performed for the resection of the tumor. The tumor was arising from the visceral pleura on a stalk and projected into the pleural space in a pediculated manner. A thin membranous capsule was present. Size of the tumor was 19 × 18 × 7 cm and weighed 1500 g. On the cut section, the mass was composed of dense, whorled fibrous tissue with irregular central calcification. A chest roentgenogram on the tenth postoperative day showed reexpansion of the lung. Pathological diagnosis of the tumor was benign localized fibrous tumor of the pleura (Fig. 2).

2. Discussion

Localized benign fibrous tumors of the pleura are approximately one-third of malignant mesothelioma [2]. Unlike malignant form, benign fibrous tumor of the pleura appears to be unrelated to asbestos exposure [3]. There was no asbestos exposure in our case. The localized form of the fibrous tumors are usually considered benign, but malignant cases have been reported [4].
Many patients with localized fibrous tumors are asymptomatic; cough, chest pain, and dyspnea occur occasionally, especially with larger tumors [4]. It has slightly higher incidence in females than males. The peak incidence is in the sixth and seventh decades of life [5].

These tumors appear as encapsulated, firm and lobulated masses with a characteristic whorled appearance on cut surface. Watts et al. reported a giant benign mesothelioma which was 1460 g [6]. In our case the tumor was also as huge as the tumor Watts et al. reported, 1500 g. Briselli et al. reported that the small tumors were usually nodular within the lung and the large tumors tended to be pedunculated within the pleural cavity, arising from the parietal pleura [5]. A giant tumor arose from the visceral pleura in our case.

Diagnosis is difficult in these tumors. The nature of the solitary lesion is established most often at the time of thor-
acotomy and subsequent histologic examination [1]. When a tumor is very large, however, the site of origin is frequently difficult or impossible to establish on conventional roentgenograms and even on CT [7]. As a result of this, we tried to diagnose the mass with thoracic CT and abdominal CT. Although it is not recommended, we performed transthoracic TruCut needle biopsy but it was not sufficient for precise diagnosis.

Infrequently a pleural effusion may be present. England et al. reported that 8% of 138 patients had a pleural effusion [8]. We have demonstrated sanguineous pleural effusion at the time of operation.

Treatments of benign fibrous tumors of the pleura consist of adequate local excision. Great care must be taken at the time of operation because of the highly vascular pedicle [6]. Although histologically benign, Briselli et al. reported that the mortality rate is about 12% owing to operative mortality, with removal or compression of mediastinal structures leading to fatal cardiopulmonary complications [5]. Periodic long-term follow-up is necessary with these tumors. Five in 78 cases which were diagnosed to be benign histologically at operation, had recurrence later in Japan [9]. After 2 years follow-up, our patient is healthy and has no sign of recurrence.

References