A Case of Pleural Lipoma Treated with Video-assisted Thoracic Surgery (VATS)

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흉강경술로 제거한 흉막지방종 1례

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지방종은 아주 흔한 양성종양이지만 흉막에서 발생한 지방종은 드물다. 대부분 무증상이며 우연히 발견되는 경우가 많다. 단순 흉부 X-선 사진상 양성종괴의 모습을 보이며, 전산화 단층촬영에서 특징적인 균질한 지방으로 구성된 종양의 모습을 보인다. 흉막의 지방종의 경우 다른 종양이나 악성 종양을 배제하기 위하여 개흉술을 통한 종양의 제거를 해왔으나 수술 후 통증이 적고 회복이 빠른 흉강경으로 지방종을 제거한 53세 여자환자 1례를 경험하였기에 보고하는 바이다. *(Tuberc Respir Dis 2005; 59: 556-560)*

Key words : Pleura, Lipoma, Thoracic surgery, Video-assiste

Introduction

Lipoma is a common benign tumor in the soft tissues, but rare in the thorax, especially in the pleural space. Pleural lipoma, usually arising from the parietal pleura, is often asymptomatic and observed incidentally. It is clinically significant as it may mimic malignant tumor preoperatively. We report a case of lipoma arising from the parietal pleura, accidentally discovered in a 50-year-old woman, treated by videothoracoscopic surgery.

Case report

A 50-year-old woman was admitted to our hospital for the investigation of abnormal chest shadow in the left upper lung field, detected incidentally. The patient denied any symptoms. The patient's medical history was not remarkable. Chest X-ray showed well-marginated mass in apicoposterior portion of left hemithorax (Fig. 1). Subsequent chest computed tomography (CT) scan revealed 10.0X8.0 cm sized well-defined mass on the left upper pleura. The mass showed homogenous density and was equal to subcutaneous fat, measuring about -100 housefield units (Fig. 2A). Magnetic resonance imaging (MRI) of the chest confirmed these findings (Fig. 2B). Blood laboratory findings were normal. To evaluate concurrent endobronchial lipoma, fiberoptic bronchoscopy was performed. Bronchoscopy revealed normal tracheobronchial tree. Needle aspiration of the lesion was attempted but it failed to establish the diagnosis because of

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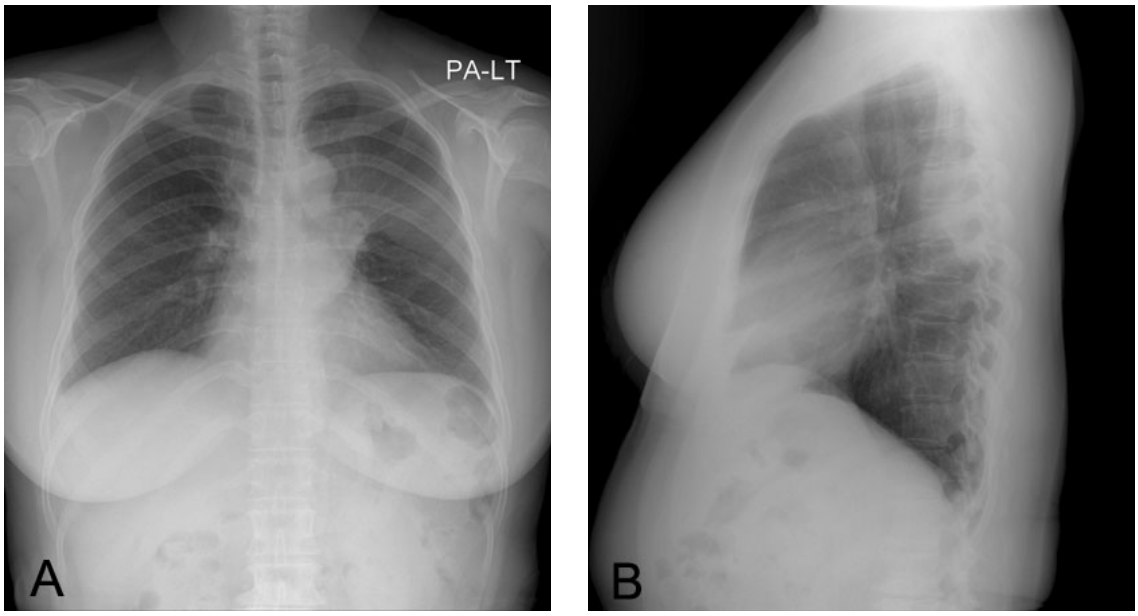

Figure 1. Chest PA (**A**) and lateral radiograph (**B**) shows well-marginated mass in apicoposterior portion of left hemithorax.

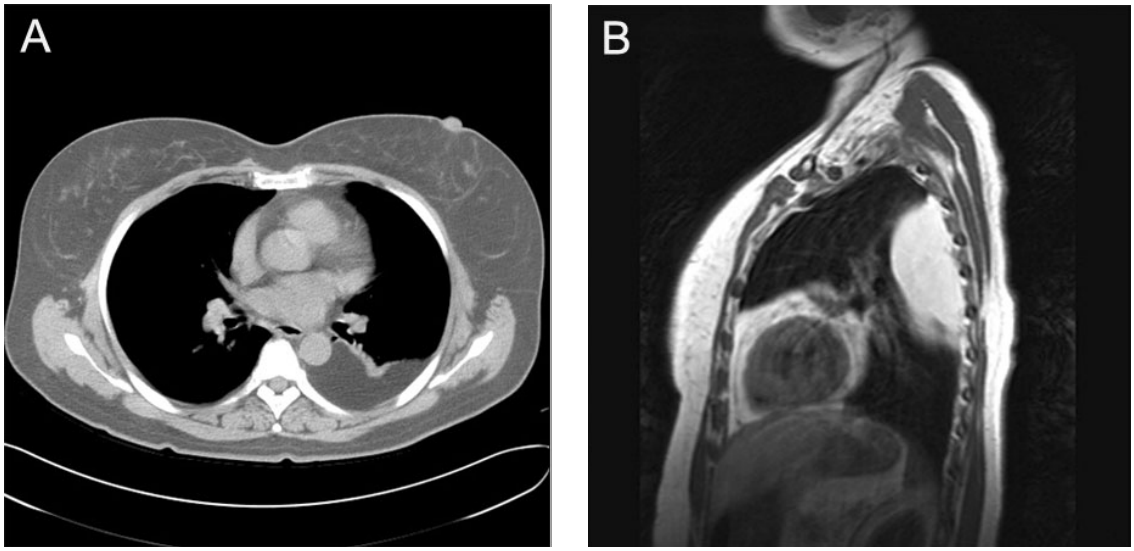

Figure 2. A. Chest CT scan shows left pleural based mass. The mean number of the mass after contrast is 100 HU, similar to adjacent fat tissue. B. Sagittal T2 weighted chest MRI shows high signal intensity lesion in upper lung field.

poor cellularity. To exclude malignancy, video associated thoracoscopic surgery was performed. The lipoma was attached with its pedicle to parietal pleura, yellowish in color, and in ovoid shape (Fig. 3A). The mass measured about 9.0X9.0X2.0cm. The cut section of mass showed uniform fatty tissue. Histologically it was composed of well differentiated adipose tissue (Fig. 3B). Post-operative course was uneventful and the patient was discharged with a normal chest radiographs (Fig. 4, Fig. 5).

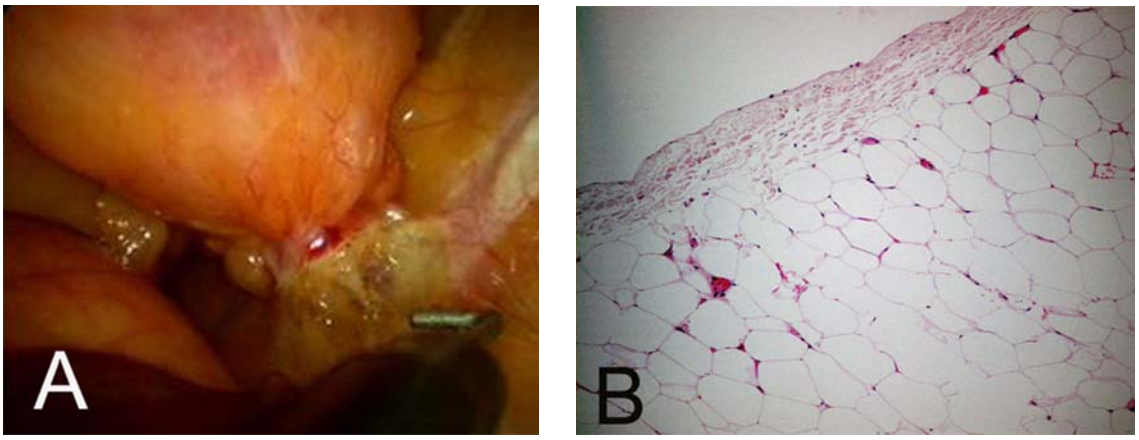

Figure 3. **A.** Tumor excision by videothoracoscopy. **B.** Micrograph of pleural mass, shows a typical lipoma (hematoxylin-eosin staining; 100X).

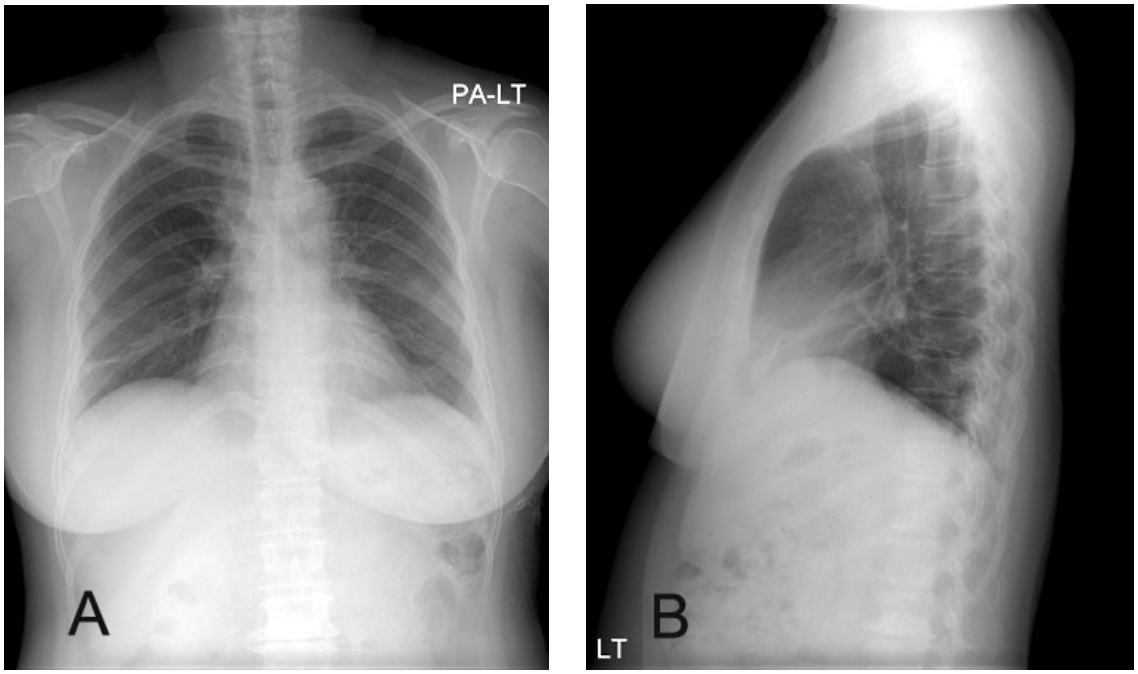

Figure 4. Post-operation chest PA (**A**) and lateral radiograph (**B**) shows normal.

Discussion

Benign intrathoracic tumors are uncommon and lipoma is one of the rarer tumors occurring within the thoracic cavity. Lipoma seen in the thoracic cage can be grouped as follows: (1) endobronchial, arising from the submucosal fat of the tracheobronchial tree and growing into the lumen of the bronchus, usually amenable to bronchoscopic examination; (2) parenchymal, usually located peripherally, surrounded by lung parenchyma, and with no endobronchial extension; (3) pleural, growing into the pleural space, subpleurally or as extrapleural masses; (4) mediastinal, located in the mediastinum; and (5) cardiac[1].

Lipoma originating from the pleura is also very rare. It presumably arise from the submesothelial layers of the visceral or parietal pleura[2]. Due to

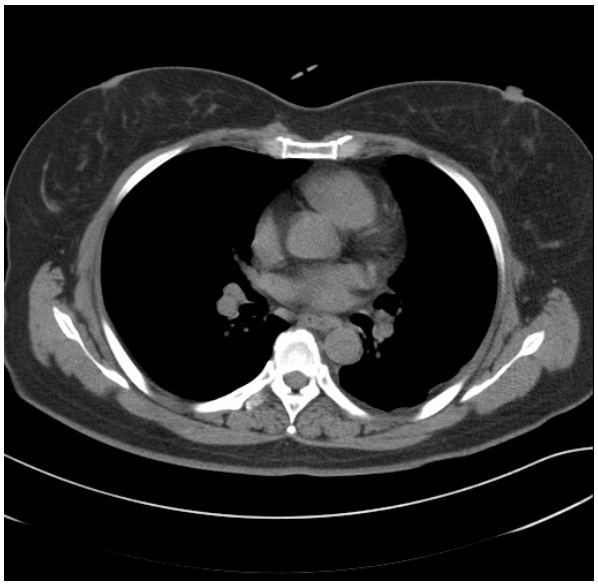

Figure 5. Post-operation chest CT shows normal.

location and slow growth, it frequently remains asymptomatic for years and, in most cases, is found incidentally on a routine chest roentgenogram[3]. In contrast to the frequently multiple subcutaneous lipoma, intrathoracic lipoma is usually a single lesion. Multiple intrathoracic lipomas have been reported in only two cases[4,5]. These can occur in all age groups and involve both sex equally. The symptoms produced by these benign tumors depend primarily on their size and location. Some patients report symptoms such as irritation, nonproductive cough, feeling of heaviness in the chest, back pain, and exertional dyspnea.

The general features of pleural tumors that have been described include a peripheral location abutting the chest wall, a sharp margin with the contiguous lung, and tapering or obtuse angles with rib cage or mediastinum. The plain film offers few diagnostic clues. In contrast, CT provides definitive noninvasive diagnosis. Lipoma can easily be distinguished from other benign lipids containing tumors in the thorax by their complete uniform fatty density[6]. Values of -50 to -150 HU are general indication of tissue which is composed of fat, lower than all other tissue[7,8].

The differential diagnosis of pleural lipoma may include pleural lipoblastoma and liposarcoma. Lipoblastoma occurs mostly in infanthood and in early childhood which grows more rapidly than a lipoma[9]. Lipoma is differentiated from liposarcoma as the latter is usually large, infiltrate, heterogenous and have attenuation coefficients greater than -50 H.U. Moreover liposarcoma is rarely intrathoracic, usually large, infiltrate, heterogenous, and symptomatic[10,11].

Given that pleural lipoma is a benign tumor, it is felt that excision should be effected[12] with as little aggression as possible for the patient. Videothoracoscopic excision is advisable for pleural lipoma, where tumor size makes it feasible, as in the case reported here. This approach ensures rapid patient recovery, less postoperative pain and a reliable histological diagnosis. This rare and benign disease should therefore be added to the list of disease in the differential diagnosis of pleural mass and VATS can be effectively used to treat pleural lipoma.

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