

Plueral Lipoma : A Case Report¹

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Lipoma is a common benign neoplasm, but lipoma arising from the pleura is rare ; it is composed of mature adipose tissue and occasionally fibrous stroma. The tumor shows characteristic radiographic and CT features of pleural mass, and the lesion is homogeneous and low density, with CT numbers indicating fat. The mass was removed by surgery and confirmed as a lipoma originating from the parietal pleura.

Index Words : Pleura, CT

Pleura, neoplasms

Lipoma and lipomatosis

Lipoma is a benign tumor commonly occurring in the skin and subcutaneous tissue (1, 2), but rarely in the thorax, especially in the pleural space (1-3). Most of these lesions are asymptomatic and are discovered incidentally on chest radiographs (1-3).

Chest radiographic findings are nonspecific, and these tumors are often confused with other mediastinal masses or occasionally with bronchogenic carcinoma (1, 3). CT findings of lipoma are quite characteristic, and may provide a definitive diagnosis which is accurate enough to preclude surgery (1-3).

Case Report

In a 19-year-old woman, a pleural based mass was found incidentally on a chest radiograph. Past history and physical examination were unremarkable. An initial chest radiograph showed a well-margined, ovoid, soft tissue density mass, approximately 6.0×6.0cm in size, in anterolateral portion of the left thorax. It was a typical extrapulmonary mass, with a broad base on the pleura and forming an obtuse angle with it (Fig. 1A). The mass was persistent, and on follow-up plain radiograph obtained 9 months after initial radiograph,

showed no interval change. CT scan revealed a 6.0×3.5cm sized well-defined, smooth margined, low density mass which was based on the left upper antero-lateral pleura, and formed an obtuse angle with the pleura. The mass showed homogeneous density and equal to subcutaneous fat, measuring about -95(-86 to 106)H.U. It contained focal, linear soft tissue density, and this suggested that it coexisted with the fibrous stroma. There was no evidence of bony erosion or destruction, invasion of adjacent chest wall, parenchymal abnormality or adenopathy. On enhanced scan, it showed no definite enhancement (Fig. 1B). At the patient's request, a thoracotomy was performed ; in the operational field, a well-circumscribed, soft, pliable mass was seen attached to the parietal pleura, and with a stalk, measuring about 1.5cm in diameter and length. The mass measured about 5.0×4.0×4.0cm, and the gross specimen was spherical, yellowish gray, firm and smooth (Fig. 1C), with a yellow, homogeneous cut surface. Microscopic sections revealed mature fat cells with partial myxoid change (Fig. 1D).

Discussion

Pleural lipoma is a rare benign tumor. In the reported series by Christ and associates, its incidence among 7751 CT examinations of the chest was 0.14%, and the prevalence of solid pleural lesions was 5.3% (4). Pleural lipomas are generally asymptomatic and often found incidentally on chest radiographs (1-3).

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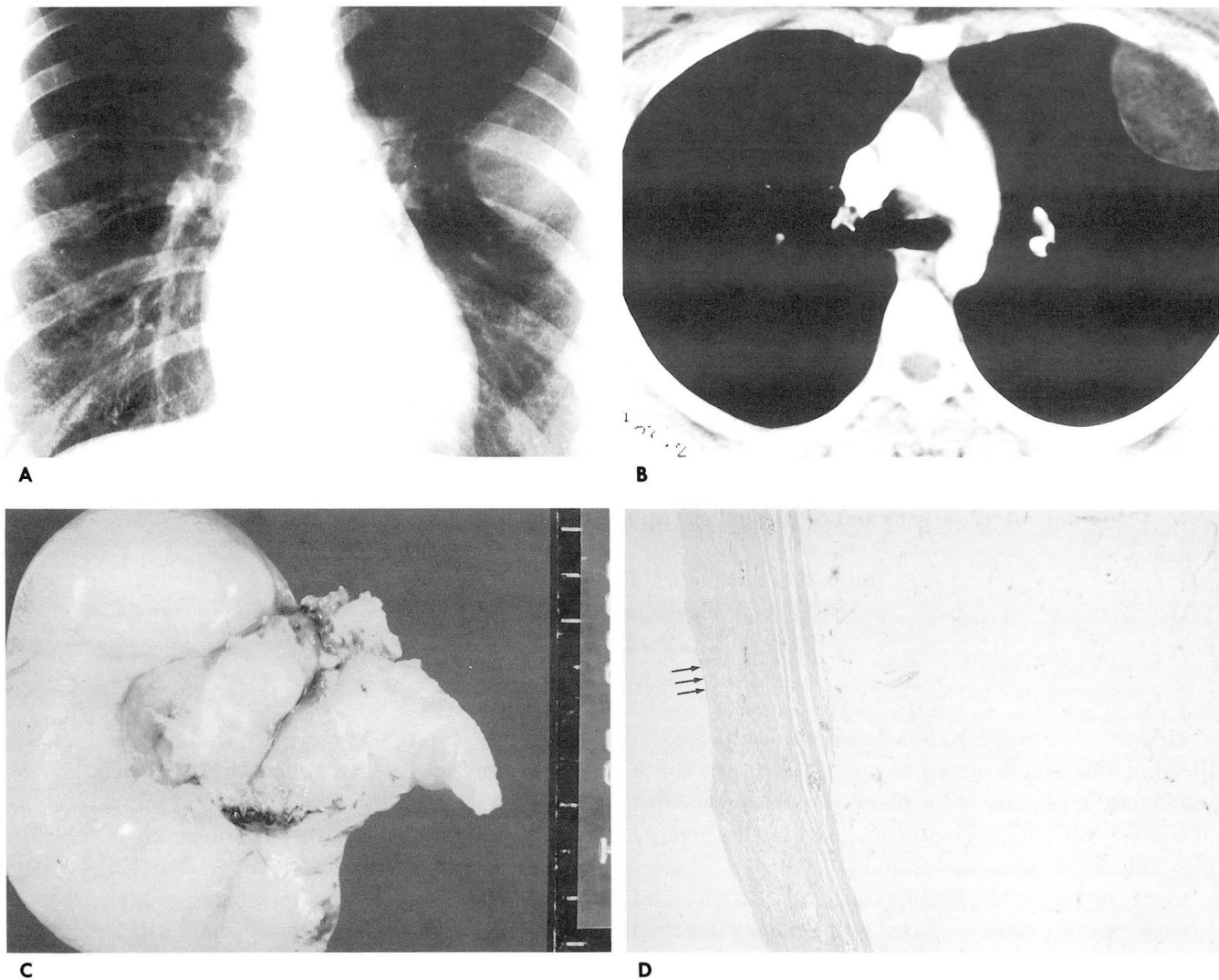


Fig. 1. A pleural lipoma in a 19-year-old woman.

A. Chest PA shows about 6.0×6.0 cm sized well-defined ovoid mass which based on left thorax with obtuse angle in lateral portion of left thorax.

B. Enhanced CT scan shows well margined low density pleural based mass in left upper anterolateral portion. There are no evidence of enhancement, invasion of adjacent chest wall, parenchymal abnormality or adenopathy.

C. Gross specimen consists of a spherical, yellowish gray, firm, smooth mass with 1.5 cm sized stalk.

D. On microscopic examination, the mass is composed of mature fat cells. And the mass is covered by single layer of mesothelial cells (arrows) and thick fibrous connective tissue stroma, indicating parietal pleura (H & E stain, $\times 40$).

Their reported general features include a peripheral location abutting the chest wall and a sharp margin with the contiguous lung; they form tapering or obtuse angles with the rib cage or mediastinum (2, 3). If specific CT criteria are met, they can be accurately diagnosed using this modality (2, 3). They also form obtuse or tapering angles with the chest wall, displace adjacent vessels and pulmonary parenchyma, and are composed of homogeneous fat density (-50 to -150 H.U.) (2, 3). They may contain punctate or linear calcifications which correspond to areas of osseous metaplasia in histologic sections (2). Lipomas can easily be distinguished by their homogeneity from other be-

nign lipid-containing tumors in the thorax, such as thymolipomas, angiolipomas and teratomas (2, 3). Benign lipomas have a uniform fatty density, although linear soft tissue strands due to fibrous stroma may be present (3). Lipomas infiltrating the thoracic wall between the ribs are rare, but have been described (1). The differential diagnosis of a pleural lipomas may include pleural lipoblastoma, though this occurs predominantly in patients less than three and grows more rapidly than a lipoma (5). Lipomas are differentiated from liposarcomas because the latter are rarely intrathoracic, usually large, infiltrate, heterogeneous and symptomatic, and usually have attenuation coe-

fficients greater than -50 H.U. (2, 3). Clinical and chest radiographic follow-up are needed for the asymptomatic pleural lipoma patient. Biopsy and/or resection is recommended for lesions that are inhomogeneous, i.e. contain mixed fatty and soft tissue components (1, 3).

In conclusion, lipoma is a common benign neoplasm; pleural lipoma, however, which this report describes, is rare.

References

1. Storey TF, Narla LD. Pleural lipoma in a child-CT evaluation.
Pediatr Radiol 1991; 21: 141-142

2. Epler GR, McLoud TC, et al. Pleural lipoma diagnosis by computed tomography. *Chest* 1986; 90: 265-268

3. Baris YI, Kalyoncu AF, Aydinler A, et al. Intrathoracic lipomas demonstrated by computed tomography. *Respiration* 1990; 57: 77-80

4. Christ F, Weinbrenner J, Reiser M. The radiologic image of pleural lipomas with special reference to computed tomography. *Rofo Fortschr Geb Rontgenstr Neuen Bildgeb verfahr.* 1991; 155: 58-62

5. 신길현, 윤엽, 성동욱, 김윤화, 양문호. 흉막에서 발생한 지방모세포종: 증례보고. *대한방사선의학회지* 1994; 31: 979-981

흉막의 지방종: 1예보고¹

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지방종은 양성 종양으로 성숙 지방조직과 때로는 섬유성 간질을 포함하고 있다. 단순흉부X-선사진상 특징적인 양성종괴의 소견을 보이며, 전산화단층촬영에서는 특징적인 균질한 지방으로 구성된 종양으로 확인이 가능하다. 그러나 흉막에서 발생한 지방종은 드물며, 수술로 확진된 증례의 보고는 없는데, 19세 여자환자에서 단순흉부X-선사진상 우연히 발견된 종괴로 전산화단층촬영에서 전형적인 소견을 보인 흉막의 지방종 1예를 보고한다.

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