Tamer Elhadidy, Raed Ali Elmetwally, Mohamed Tohlob, Mohamed Hamoda, Asem A. Hewidy and Ahmed Ehab*

Department of Chest Medicine, Faculty of Medicine, Mansoura University, Mansoura, Egypt

Abstract: Pleural lipoma is an extremely rare benign tumor. A lesion homogeneity with smooth borders is a suggestive criterion of lipoma in the chest radiology. Tissue biopsy is usually required for the diagnosis and exclusion of liposarcoma. In this case report, we described a female patient diagnosed with a pleural lipoma which was discovered accidentally during a metastatic work up of a previously diagnosed squamous cell carcinoma in the left ala nasi. The diagnosis of the pleural lipoma was histopathologically confirmed with trucut biopsy.

Keywords: Intrathoracic lipoma, pleural lipoma, pleural tumor, tissue biopsy, liposarcoma, patient.

1. INTRODUCTION

Lipoma is a benign, mesenchymal, homogenous slowly growing tumor which arises from the adipose tissues [1]. It represents the most common type of tumors in adults. However, Pleural Lipoma (PL) is considered as an extremely rare observation [2]. Mostly because, PL is an incidental finding in the chest radiology in asymptomatic patients. [2] Nevertheless, nonspecific and compressive symptoms were also described [3]. A final pathological examination for the differentiation between lipoma and liposarcoma is essential [2].

In this case report, a large incidental pleural lipoma in an asymptomatic female patient was confirmed by both the computer tomography and the pathological examination.

2. CASE REPORT

A 47 years old female patient had no special habits and had a Body Mass Index (BMI) of 40 kg/m². The patient was diagnosed with a squamous cell carcinoma which was confirmed with a tissue biopsy taken from the left ala nasi swelling, it was surgically removed with skin reconstruction. As part of the metastatic workup, CT chest was done and it incidentally revealed a right sided sub-pleural homogenous opacity with the Housenfield Unit (HU) -113 which was consistent with PL (Fig. 1). Transthoracic US confirmed the homogeneity of the pleural opacity with a hypoechoic appearance. US guided core tissue biopsy was sent for the pathological examination and the results revealed small snips of a fatty tissue in the hemorrhagic background with no detected atypical or malignant cells. (Fig. 2) The final decision was discussed with the patient and she refused any surgical intervention and a strict clinical and radiological follow up will be conducted every six months.

3. DISCUSSION

Intrathoracic lipoma can be classified into: (a) Hour-glass or dumbbell lipoma which passes through the thoracic inlet or the intercostal spaces and (b) pure intrathoracic lipomas [4].

Pure intrathoracic lipoma is rare [1, 5]. It is classified according to the origin of the tumor into: a) endobronchial lipoma which originate from the submucosal fat of tracheobronchial tree, b) parenchymal lipoma which are located peripherally within the lung parenchyma, c) mediastinal lipoma, d) Cardiac lipoma and e) pleural lipoma which arise from submesothelial paitetal pleura and may extend into the subpleural, pleural or extrapleural spaces [3, 6].

PL is a benign tumor that originates from the pleural adipocytes. Among the solid pleural tumors, the PL is extremely rare and represents only (8%) [2].

PL is a slow growing and well circumscribed lesions which are commonly isolated unlike subcutaneous lipomas [2].

It is usually observed in patients aged 40- 60 years [4, 7]. The relationship between PL and obesity is still questionable. [4] In our case, PL was discovered in an obese female patient (BMI 40.40 Kg/M2).

It is usually asymptomatic or presented with nonspecific symptoms due to the compression by large lipoma. Symptoms include: hacking cough, chest pain or dyspnea [3]. Local complications can be caused by: bone erosion or hyperostosis and peritoneal irritation [8].
Fig. (2). Slide prepared from the tru cut biopsy and revealed the presence of mature fatty cells.

On chest radiology, PL appears as smooth rounded nodules or mass. CT chest is essential to determine the extent and the location of the lesion, differentiation between benign and malignant pleural lesions as well as parenchymal lesions and to determine the tissue characterization using signal attenuation.[1]

Presence of a well-defined homogenous fatty lesion (-50 to -150 HU) with the displacement of the adjacent lung and vascular structures to make an obtuse angle with the chest wall, which is also not enhanced by an injected contrast medium are considered the diagnostic criteria of pleural lipoma[1, 3]. Presence of infiltration of the adjacent structures, mass heterogeneity or greater attenuation more than -50 HU are considered as alarming signs of liposarcoma[1].

Magnetic Resonance Imaging (MRI) allows better identification of the relationship between the tumor and the surrounding structures, confirms the intrathoracic localization and enhance the differentiation between lipoma and liposarcoma[2].

Transthoracic ultrasound helps in the definitive diagnosis of pleural lipoma, as it can determine whether the lesion is cystic or solid, the density of the adipose tissue, the lesion’s homogeneity and it also help guide the intervention using fine needle aspiration cytology (FNAC) or tru cut biopsy[2, 3].

Pathology is crucial for the final diagnosis and less invasive techniques are preferred such as FNAC[1, 7]. Other invasive techniques such as tumor resection either open thoracotomy or through Video-Assisted Thoracoscopic Surgery (VATS) could be also considered[7]. Pathological examination revealed the presence of a mature adipose tissue and scanty lymphocytes with the absence of mitotic activity and pleomorphism[1].

The management of PL is controversial and the treatment options include either observation with clinical and radiological follow up or surgical resection[1, 2].

The outcome of PL is usually good. Recurrence rate is less than 6% and is usually related to the incomplete resection of the tumor[1]. Surgical intervention for large lipoma should be considered in symptomatic patients for both diagnostic and therapeutic purposes[4].

The surgical intervention can be carried out by using open thoracotomy or recently by VATS[7].

It’s worth mentioning that some patients with pleural lipoma were operated due to anxiety especially in those with history of previous neoplasm[2].

CONCLUSION

Pleural lipoma is a benign rare intrathoracic tumor. Patients are represented with compressive manifestations. However, accidental discovery is also common. Surgical resection is recommended for the differentiation between lipoma and liposarcoma as well as for curative purposes.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

HUMAN AND ANIMAL RIGHTS

Not applicable.
Large Pleural Lipoma: An Incidental Finding During a Metastatic Workup

CONSENT FOR PUBLICATION

Human subjects used in the study provided informed consent to participate.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

REFERENCES


