
Peripheral intrapulmonary lipoma: A case report and review of the literature

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ÖZET

Periferik intrapulmoner lipom: Bir olgu sunumu ve literatürün yeniden gözden geçirilmesi

Lipomlar sık benign tümörlerdir, fakat intratorasik lipomlar nadirdir. Periferik akciğer lipomları ise oldukça nadirdir. Daha önceden literatürde sekiz olgu bildirilmiştir. Biz, 54 yaşındaki kadın hastada sol akciğer periferik alt kısımdan köken alan bir lipom olgusunu sunduk. Makroskopik olarak tümöral doku iyi sınırlı, ince kapsüllü, yuvarlak soluk sarı kitleydi. Sol akciğere wedge rezeksiyon yapıldı ve mikroskopik bulgular akciğer lipomu ile uyumluydu. Makalemizde bu nadir neoplazmin makroskopik ve mikroskopik özellikleri, tedavi ve ayırıcı tanısı tartışıldı.

Anahtar Kelimeler: Periferik, lipom, akciğer.

SUMMARY

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Lipomas are common benign tumours, but intrathoracic lipomas are rare and peripheral lung lipomas are exceptionally rare. Eight cases have been described in the world literature. We report a case of lipoma arising in the periphery of the left lo-

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wer lung in a 54-year old woman. Grossly, it was presented as a well-circumscribed, thinly encapsulated, rounded, pale yellow mass. A wedge resection was done of the left lung and the microscopic findings revealed lipoma of the lung. The present paper recapitulates the macroscopic and microscopic features, the treatment and the differential diagnosis of this rare neoplasm.

Key Words: Peripheral, lipoma, lung.

Lipomas are quite easily recognized as encapsulated proliferations of mature adipocytes (1). Two types of solitary lipomas can be distinguished. Subcutaneous or superficial lipomas and deep lipomas. Superficial lipomas are most common in the regions of the upper back and neck, shoulder and abdomen. Deep lipomas are rare in comparison. They are often detected at a relatively late stage of development, and consequently the average size tends to be larger than that of subcutaneous lipomas. Numerous sites may be involved. These are subfacial tissues of the hands and feet, juxtaarticular regions, thorax, mediastinum, chest wall and pleura, pelvis and retroperitoneum, gastrointestinal tract (2). Lipomas of the bronchus and lung are very rare. Only eight cases of peripheral intrapulmonary lipoma have been reported. These were thought to originate from fatty tissue in the wall of peripheral, subsegmental bronchi (3-12).

CASE REPORT

Clinical Data

A 54-year old woman presented with three months history of left chest pain, wheezing and cough. Clinical examination showed no relevant abnormality. Tumour markers and routine blood tests were all normal. Initial investigations included a chest radiograph, which showed an opacity in the left lower zone (Figure 1). The left basal lesion was further assessed with computed tomography (CT). This demonstrated a mass in posterior side of the left lung which was 4 cm in diameter. At thorax spiral CT a lesion consistent with diaphragmatic hernia was found at the same location (Figure 2). The patient underwent surgical resection and the tumour was treated by wedge resection of the left lung. After the operation, he has been well and completely symptom free.

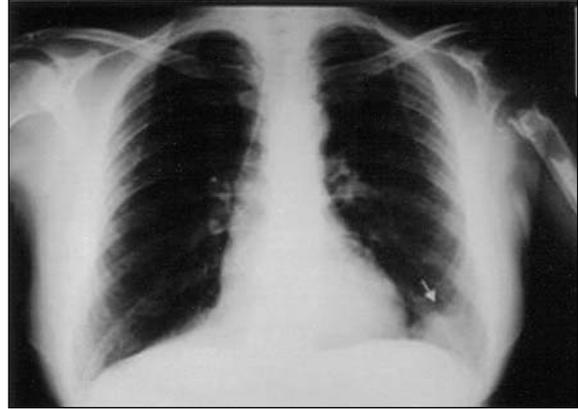


Figure 1. An opacity in the left lower zone, chest radiograph.

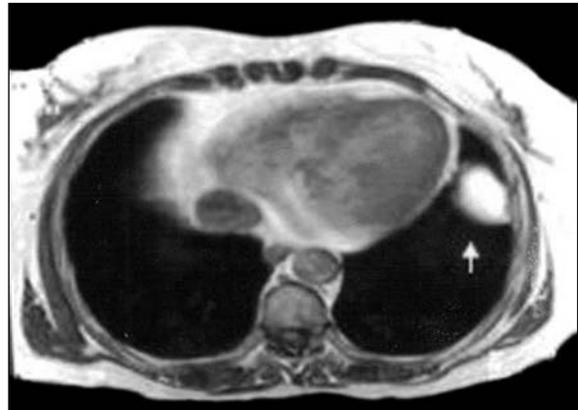


Figure 2. A mass in posterior side of the left lung which was 4 cm in diameter, thorax spiral CT.

Pathological Findings

Grossly, the wedge resection measured 8 x 3.5-3 x 1.8 cm. At the center of the wedge resection there was a well-circumscribed, thinly encapsulated, pale yellow 3 x 3.5 cm mass.

Histologically, the tumour was surrounded by a thin connective tissue capsule and was composed of normal fat cells (Figure 3). The nuclei were fairly uniform. At the periphery of the mass

there was increased fibrous tissue, chronic inflammatory cells, congestion and nests of foamy macrophages around cyst like spaces because of fat necrosis (Figure 4). In some areas, there was giant cells with bizarre pleomorphic and multiple nuclei. The parenchymal changes were emphysem, congestion and minimal chronic inflammatory cells.

DISCUSSION

The occurrence of benign mesenchymal tumours in the bronchopulmonary region is rare (4). The incidence of bronchial lipoma among all pulmonary tumours is 0.1% and it constitutes 13% of benign tumours of the lung (8,9).

Adipose tissue is a normal constituent of the bronchial wall and may also be found beneath the pleura. Thus lipomas may arise from any adipose tissue within the lung and may be divided into bronchial and subpleural lipomas (3,7,10,11). According to Kim, et al. intrapulmo-

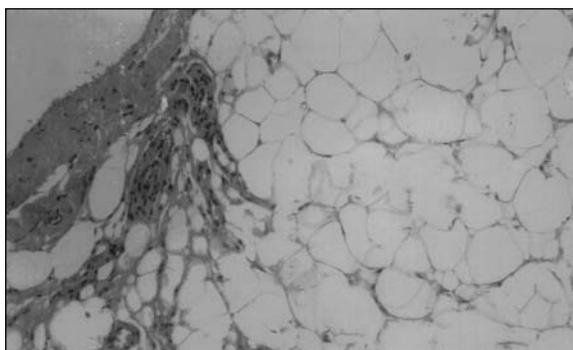


Figure 3. A thin connective tissue capsule and is composed of normal fat cells (HE x200).

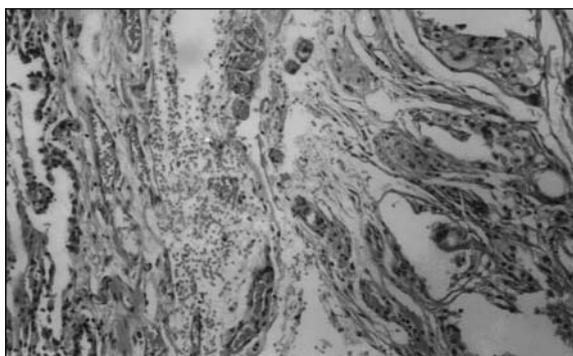


Figure 4. Increased fibrous tissue, chronic inflammatory cells, congestion and nests of foamy macrophages around cyst like spaces because of fat necrosis (HE x100).

nary lipomas occur as endobronchial and parenchymal. An endobronchial location is twice as common as its parenchymal counterpart (9).

In the literature, peripheral lipoma of the lung made up only nine cases over all, including our case (Table 1) (5-7,10). The age of these nine patients ranged from 44 to 71 years and only two of them were female. Ratio of right to left was 4:5. The definite diagnosis was gained by thoracotomy in seven cases.

Macroscopically, lipomas are more frequent in the left main and lobar bronchi than in the corresponding bronchi on the right side (3). These tumours are whitish grey to yellow in colour, measure 1 to 2 cm in diameter and are generally pedunculated (12).

Histologically, the tumours resemble lipomas in other locations (3-12). Peripheral lipomas are more often surrounded by thin connective tissue and normal lung parenchyma (5,6). These are thought to originate from fatty tissue in the wall of peripheral, subsegmental bronchi (5,6). These benign, peripheral intrapulmonary lipomas usually present as a solitary opacity on chest radiograph, indistinguishable on plain films from malign neoplasms (5,9).

The differential diagnosis of a fat containing peripheral lung mass includes, in addition to lipoma, fibrolipomatous hamartoma and liposarcoma. The presence of other components such as islands of bone or cartilage or epithelial-lined clefts points to the correct diagnosis of hamartoma (3). In our case, there was no other components. The unusual and interesting feature of our case was the presence of giant cells with bizarre pleomorphic and multiple nuclei which could resemble liposarcoma. Hasleton, et al. reported that occasionally, pulmonary lipomas may have small giant cells with bizarre nuclei scattered amid the mature fat resembling liposarcoma, but true lipoblasts are not seen (3). In our case there was no lipoblast. We concluded the fat necrosis in our case normal because secondary changes in lipomas can occur occasionally as a result of impaired blood supply (2). According to these, we concluded our case as a peripheral lipoma.

Table 1. Peripheral lipoma of the lung in the literature.

No	Author	Year	Age	Sex	Symptoms	Location	Size (cm)	Treatment
1	Buchmann	1911	55	M	Sputum, fever	RLL	6 x 2.5	(Autopsy)
2	Touroff	1950	60	M	Symptom free	RUL	4.5	Enucleation
3	Shapiro	1953	46	M	Hemoptysis	LUL	1.5	Lobectomy
4	Plachta	1962	71	M	Cough, chest pain, dyspnea	RLL	7.8 x 4.2 x 2.3	Lobectomy
5	Jones	1973	64	M	Hemoptysis	RML	7 x 4 x 4	Lobectomy
6	Zafirakopoulos	1977	60	M	Productive cough, chest pain, dyspnea	LLL	2.5	Enucleation
7	Hirata	1989	44	M	Productive cough	LLL	1.0 x 1.0 x 0.8	Enucleation
8	Wood	2004	54	F	Right arm paraesthesia	LLL	1.3	No surgery
9	Our case	2004	54	F	Left chest pain, cough, wheezing	LLL	3.5 x 3	Lobectomy

RUL: Right upper lobe, RML: Right middle lobe, RLL: Right lower lobe, LUL: Left upper lobe, LLL: Left lower lobe, M: Male, F: Female.

The treatment of peripheral lipoma is limited to surgical procedure. Enucleation should be performed to preserve the maximum residual lung function (6). In our case, a lobectomy was done.

KAYNAKLAR

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