

DIAGNOSTICS OF PERIPHERALLY LOCATED INTRATHORACIC LIPOMA

Mustafa Yıldırım, Eda Parlak, Mert Köroğlu, Sibel Köksal, Mustafa Yıldız, Cemil Gürses
Antalya Education and Research Hospital, Department of Medical Oncology, Antalya, Turkey¹
Antalya Education and Research Hospital, Department of Radiology, Antalya, Turkey²

Corresponding author email: Mustafa Yıldırım, MD. Antalya Education and Research hospital, Department of Medical Oncology, Antalya, Turkey. E-mail: mustafayildirim7@yahoo.com.

Case report

SUMMARY

In the differential diagnosis of lipomas, fibromatous hamartoma, liposarcoma, fibrolipoma and teratoma may be mentioned as fat-containing lesions of peripheral localization. However, these lesions are different from lipomas in that they contain soft tissue

components and are not homogeneous. Furthermore, they are much larger than lipomas, are infiltrative and their CT density is greater than -50 HU. Though it is emphasized that up to the present time surgery has been the gold standard method in the recognition and treatment, considering the risks of surgical procedures, we are of the opinion that diag-

nosis can be established and the follow-up can be managed with advanced radiological methods and that there is no necessity for invasive interventions especially in asymptomatic patients.

Key words: intrathoracic lipoma, differential diagnosis, risk of surgical procedures.

1. INTRODUCTION

Lipomas are well-defined and encapsulated mesenchymal tumors of adipose tissue. They account for 1.6% to 2.3% of all mediastinal tumors and are usually localized in the anterior mediastinum. These tumors are usually asymptomatic. They are detected through chest radiography performed for other reasons (1, 2, 3, 4).

Despite their entirely benign nature, invasive diagnostic intervention or total surgical excision was performed in the majority of the cases reported in the literature. We present here a patient we have followed up without resorting to any invasive diagnostic intervention or total surgical excision.

2. THE CASE

A 47-year-old male patient with no known health problems presented to our hospital upon detection of a large opacity at left lower zone observed in his chest radiograph in a routine check-up ordered by his workplace doctor. (Figure 1) His thorax CT revealed a 11cm X 8 cm, rather well-defined, homogeneous,

round, fat-density, regular-contoured mass lesion of intrathoracic location in the **posterior basal** segment of the **lower lobe** (Figure 2). The patient was examined with MRI to clarify the site of the lesion with respect to the diaphragm. The MRI revealed that the lesion was of a similar nature with subcutaneous adipose tissue in T1 and T2 weighted sequences, showed a hyperintense character, and was suppressed in general on fat-suppressed sequences (Figure 3). No contrast enhancement was observed following intravenous contrast agent injection and coronal study showed that the contours of the diaphragm were regular and free of any association with the lesion. The lesion was identified as an intrapulmonary lipoma of peripheral localization and the fact that



Figure 1. Posteroanterior chest radiograph demonstrates a well-defined radiopacity in the left lower lobe at the left costophrenic angle



Figure 2. CT of the thorax (10 mm slice thickness, mediasten windows) in the same patient showing a well circumscribed, rounded lesion in the lateral basal segment of the left lower lobe. The density is that of fat. (-113, -133 HU)

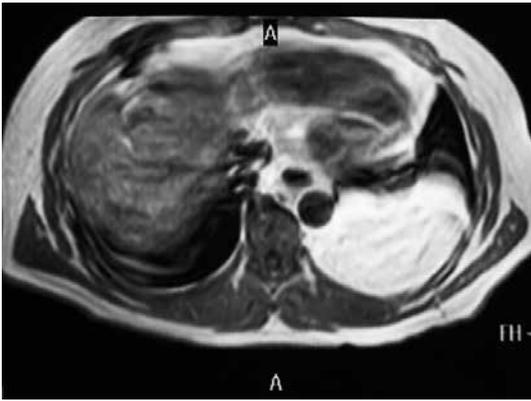


Figure 3. MRI of thorax; the lesion is hyperintense in T2 weighted images



Figure 4. Coronal T2 weighted images; the lesion is in thorax and diaphragm is intact

the patient was a symptomatic also being taken into consideration, he was scheduled for follow-up.

3. DISCUSSION

Benign mesenchymal tumors of bronchopulmonary localization are rare occurrences. The incidence of bronchial lipomas among all lung tumors is only 0,1%. The incidence is 13% among benign lung tumors (1). Intrathoracic lipomas are well-defined, encapsulated masses filled with adipocytes as in adipose tissue. The most frequent localizations are the anterior mediastinum, the cardiophrenic corner

and the cervicomediastinal site. They are generally detected as well-defined lesions in lung radiography performed for other reasons. In CT scans, homogeneity and fat-density is a characteristic observation for lipomas. Our case was well-defined and homogeneous, and its density as measured in CT was of fat density (-113, -133). If the lesion is close to the diaphragm, hernias and localized emphysemas must be taken into consideration for the differential diagnosis. We performed MRI to establish a differential diagnosis and especially to differentiate from diaphragm hernias. The lesion was homogeneous and had an intensity similar to that of the surrounding subcutaneous adipose tissue also in the MRI. Diaphragm was intact on the coronal plane and no defect was found.

This, too, supported our diagnosis of lipoma.

Dimensions of peripheral lipomas in previously reported literature range between 1 cm and 13 cm (2) The dimension was measured as 11X8 cm in our case.

While in earlier times diagnosis for peripheral lipomas used to be established through surgery, in later times direct graphy and fluoroscopy had taken its place. In our day, CT and MRI have replaced these methods in establishing diagnosis and have minimized the need for surgery especially in asymptomatic patients (3). The majority of the

cases reported in literature had been administered total surgical excision.

In the differential diagnosis of lipomas, fibromatous hamartoma, liposarcoma, fibrolipoma and teratoma may be mentioned as fat-containing lesions of peripheral localization. However, these lesions are different from lipomas in that they contain soft tissue components and are not homogeneous. Furthermore, they are much larger than lipomas, are infiltrative and their CT density is greater than -50 HU (4).

Though it is emphasized that up to the present time surgery has been the gold standard method in the recognition and treatment, considering the risks of surgical procedures, we are of the opinion that diagnosis can be established and the follow-up can be managed with advanced radiological methods and that there is no necessity for invasive interventions especially in asymptomatic patients.

Conflict of interest: none declared.

REFERENCES

1. Kim NR, Kim KJ, Kim JK, Han J. Intrapulmonary lipomas: report of four cases. *Histopathology*. 2003; 42: 305-306.
2. Hirata T, Reshad K, Itoi K, Muro K, Akiyama J. Lipomas of the peripheral lung a case report and review of the literature. *Thorac Cardiovasc Surg*. 1989; 37: 385-387.
3. Wood J, Henderson RG. Peripheral intrapulmonary lipoma: a rare lung neoplasm. *Br J Radiol*. 2004; 77: 60-62.
4. Krygier G, Amado A, Salisbury S, Fernandez I, Maedo N, Vazquez T. Primary lung liposarcoma. *Lung Cancer*. 1997; 17: 271-275.