Giant Intrathoracic Lipoma


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Introduction

Most of the lipomas are slow-growing soft tissue tumors and rarely reach 2 cm in size, those reaching more than 5 cm are called giant lipomas and are an exceedingly rare entity. Hereon, we describe a case of huge intrathoracic lipoma compressing the right lung which was managed by complete excision through a median sternotomy.

A 27-year-old lady presented to the Obstetrics department with abdominal pain. Abdominal X-ray revealed a space-occupying lesion on the right side of the chest above the diaphragm as an incidental finding. The patient was referred to the Cardiothoracic Surgery Department for assessment and management. CT scan showed an anterior mediastinal mass extending into the right thoracic cavity. (Figure 1). MRI done showed a large fat density lesion in the right hemithorax and appears inseparable from the thymus. (Figure 2)

The patient was explored through median sternotomy as the tumor was arising from the anterior mediastinum. After sternotomy, the large mass was seen arising from the thymic area and extending into the right pleural cavity above the diaphragm and compressing the right lower lobe of the lung. The tumor grossly appeared as a light yellow encapsulated soft mass with a smooth surface. (Figure 3) It was attached with its pedicle to the thymus, adjacent to the right phrenic
nerve. It was removed en-bloc along with the thymus gland. The tumor weighed 2320 grams and was 38x26x15 centimeters in dimension. The histopathology of the specimen confirmed the diagnosis of benign thymolipoma. (Figure 4) The post-operative period was uneventful and the patient was discharged home after 4 days.

**Consent**

Consent was taken from the patient for the publication of the case and images.

**Comment**

Lipomas are benign mesenchymal tumors. Generally, their distribution is predominantly in the subcutaneous tissues of the body, but rarely they can originate in the intrathoracic cavity in the mediastinum or intrapulmonary areas.\(^1\) Intrathoracic lipoma has two variants; hourglass or dumbbell-shaped that originate in the subcutaneous tissue and enter through intercostal space or thoracic inlet into the thoracic cavity, and the other is purely intrathoracic.\(^2\) Our case belongs to the second category as it was entirely within the chest cavity. Mediastinal lipomas commonly originate within the anterior mediastinum and constitute 1.6-2.3% of all primary mediastinal tumors. Thymolipoma is a benign variant of this type and accounts for 2-9% of all thymic neoplasms.\(^3\) Microscopic examination shows exuberant lymphoid nodular hyperplasia with thymomatous differentiation, as in this case. Liposarcoma constitutes 9% of all anterior mediastinal malignancies in one of the series.\(^4\)

These lipomas are slow-growing, and patients generally remain asymptomatic until they have grown to a large size and started producing compressive symptoms. The symptoms of dyspnea and dysphagia are due to pressure effects on the trachea and esophagus respectively. These lipomas are found incidentally during radiological examination in the majority of the cases. Computed tomography (CT) gives a confirmed diagnosis when it shows a homogeneous fatty attenuation (-50 to -150 Hounsfield units) forming an obtuse angle with the chest wall and compressing the adjacent structures. The density may be variable because lipomas often contain fibrous elements.\(^5\) The mass appeared to be benign because it was well encapsulated with well-circumscribed margins. Malignant lesions tend to invade the surrounding structures and are
symptomatic. On imaging, they produce non-homogenous enhancing density with variable fat and soft tissue density, along with an invasion of surrounding structures.\textsuperscript{6}

The current recommendations include complete excision whenever feasible because it is difficult to differentiate a lipoma from liposarcoma preoperatively and albeit low risk they may undergo malignant transformation. The approach depends on the site and the size of the mass. Median sternotomy or thoracotomy is the best for total resection of these big masses. Video-Assisted Thoracoscopic surgery can be used in small, uncomplicated and, adhesion-free tumors. The local recurrence of these tumors is uncommon and has been reported to be less than 5%.\textsuperscript{7} The overall prognosis after complete resection is excellent.

References

Fig. 1- Computed Tomography scan revealing a well-defined huge intrathoracic mass, coronal and axial view.

Fig. 2- MRI scan showing a large fat density lesion in the right hemithorax and appears inseparable from the thymus, coronal and axial view at thymic level.
Fig. 3 - Whole mediastinal mass after dissection with attachment to the thymus.

Fig. 4 - A microscopic high-power view of the mass showing islands of unremarkable thymic tissue within mature adipose tissue. (Hematoxylin and eosin staining x 400)