Large Intra -Thoracic Thymolipoma

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ABSTRACT

Thymolipomas are rare benign anterior mediastinal tumors. They grow to a significant size before becoming symptomatic. They are encapsulated and consist of mostly fat with interspersed thymic tissue. We operated a 45 year old man, with a BMI of 27, who presented with dyspnea on exertion. Examination revealed absent breath sounds on the left side. Radiology revealed a low density mass occupying the whole of left hemithorax and mediastinal shift to the right. Trucut biopsy revealed only fatty tissue. At thoracotomy a 3.25 Kg tumor was resected and the histopathology revealed thymolipoma. Patient remained well after surgery.

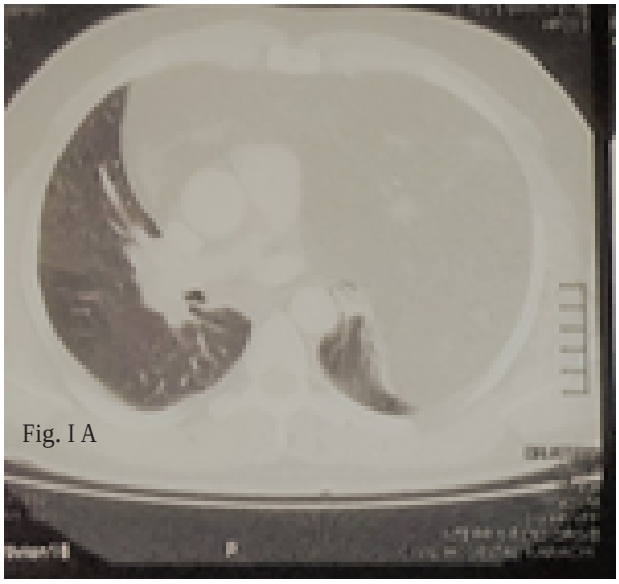
Key words *Thymolipoma, Mediastinal tumors, Thymic mass.*

INTRODUCTION:

Thymolipomas are slow growing anterior mediastinal tumors with an annual incidence of 2 to 9 percent.[1,2] According to Teixeira and Bibas these tumours account for 1.1% of all the solid mediastinal tumors.[3] Thymolipomas have been reported in all age groups with no gender predilection.[1,4] Most of the thymolipomas remain silent and grow to a significant size before producing symptoms like dyspnea, cough and even hemoptysis.[1,2,4] We report a patient with this rare variety of tumor.

CASE REPORT:

A 45 year old man presented with a 4-week history of dyspnea on exertion. Examination of the patient revealed sinus tachycardia, tachypnea and markedly reduced breath sounds on the left side. His pulmonary function tests revealed severe restrictive lung disease with a forced vital capacity (FVC) of 1.61 L and a forced expiratory volume (FEV_1) of 1.21 L. The ECG and echocardiogram were reported as normal. Chest radiograph revealed a large left sided mass occupying almost the whole of the left hemithorax. Computed tomography of the chest revealed left sided tumor measuring 20.9×18×16.8 cm in dimension with a HU density of -110 U. The tumor was reported as invading great vessels and the heart with contralateral mediastinal shift and extension across the midline into the right hemithorax (Fig I).



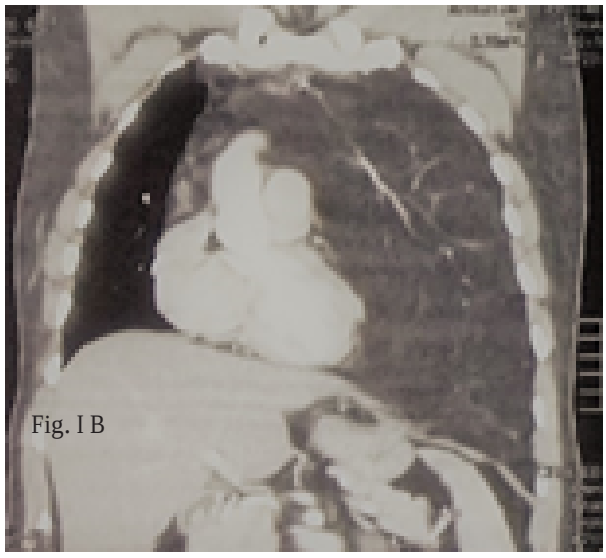


Fig. I A & B. The extent of the thymolipoma

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CT findings were reported as consistent with a liposarcoma, but a trucut biopsy revealed only benign adipose tissue. The patient was counselled for resection of the tumor. General anesthesia with a double lumen endotracheal tube was instituted and a left posteriolateral thoracotomy was performed. The tumor was well encapsulated, yellowish-tan in color was not invading either the heart or the great vessels . The left lung was completely compressed due to the weight of the tumor. (Fig. II) The mass had soft to firm vascular adhesions with the mediastinal structures but was free from the chest wall. It was adherent to the left hemidiaphragm through soft adhesions only. Hemostasis was secured both with ligature and suture ligation to control the double vascular pedicle high up in the superior mediastinum. The mediastinal pleura was only pushed to the right side and not invaded by the tumor. The whole tumor was excised without opening the mediastinal pleura. Once totally excised the tumour weighed 3.25 Kg (Fig III).

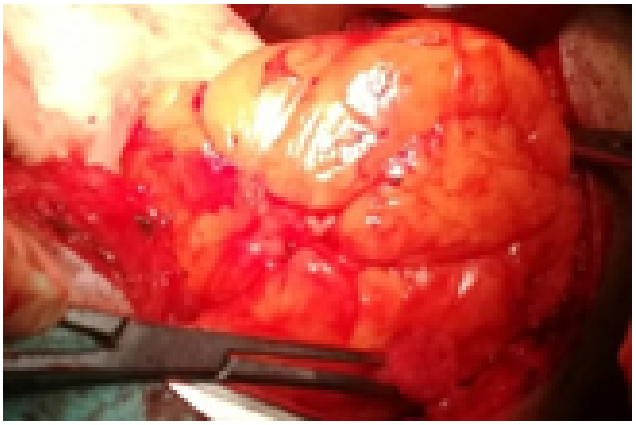

Fig. II The bulging lung with a huge mass lying underneath.

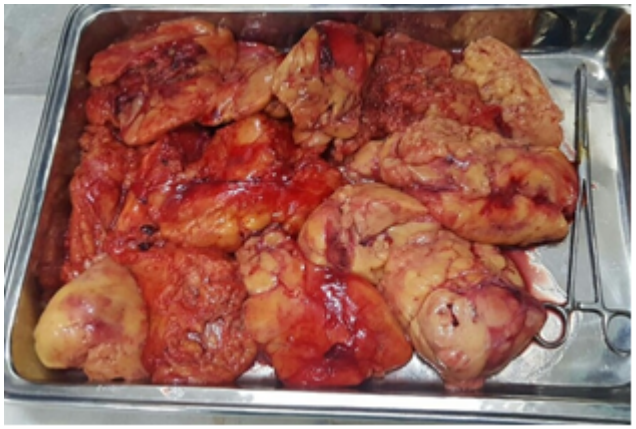

Fig. III. The excised tumor

The patient was shifted to the ICU for postoperative monitoring where he suffered a tonic seizure and became unresponsive. He was immediately put on ventilatory support. Investigations revealed Plasmodium Vivax. Anti-malarial drugs were started. He was weaned off the ventilator the next morning. He made a complete recovery. Chest tube was removed on the 5th postoperative day after full lung expansion was achieved. He was discharged home the next day. On his first follow-up visit after one week of surgery he had no dyspnea, and his heart rate and ECG showed sinus rhythm. On his second postoperative visit his FVC was 1.99 L with FEV_1 of 1.61 L (FEV_1/FVC=81%). He was completely free of any respiratory symptoms.

Histopathology revealed a neoplastic lesion composed of lobules of mature adipocytes which were associated with histologically unremarkable thymic tissue containing cortex, medulla and Hassall corpuscles. In areas the thymic epithelial cells showed proliferation with zones of dense fibrosis around the thymic epithelial cells

DISCUSSION:

The term thymolipoma was first suggested by Hall in 1948 for tumors of the mediastinum consisting of both fat and thymus tissue.[5] Till 1997 only 147 cases were reported in the literature. Farhat et al reported a thymolipoma in a 2 year old toddler.[6] The tumor has been diagnosed in both children and adults and both sexes are equally affected.[7] Thymolipomas are incidentally detected as these are slow growing tumors and symptoms only occur when they are large enough to compress the airway or shift the mediastinum significantly.[1,2,8] The most common symptoms are dyspnea, dull chest pain, cough and respiratory tract infections. Less common symptoms are easy fatigability, dysphagia and hemoptysis.[4,9]

Thymolipomas have been seen to be associated with other systemic conditions like myasthenia gravis, aplastic anemia etc.[4,10] Thymolipomas can attain a huge size but are essentially benign tumours. They grow slowly and do not invade the surrounding mediastinal structures. As a result complete resection is almost always possible. Once resected completely they do not recur.[4,10] More commonly, equal amounts of fat and soft tissue attenuation are identified on a CT scan however, the less common pattern shows a predominance of fat attenuation with tiny foci of soft tissue attenuation.[11]

It is important to understand that the CT Scan attenuation number of a thymolipoma is higher than that of a pure lipoma and may be in the range observed with a liposarcoma.[12] In our case the CT Scan findings were reported as favouring a diagnosis of liposarcoma with invasion of the mediastinal viscera including the vessels. As the CT scan is not

absolutely accurate in diagnosing a thymolipoma, a tissue diagnosis was warranted which showed only adipose tissue in our patient. It is not always possible to obtain representative tissue through a trucut biopsy. Considering the possibility of a liposarcoma invading the contralateral side, we had initially planned for a staged procedure with palliative debulking being our goal. As it turned out the tumor was completely resectable from the left side and we were able to complete the surgery in one stage. A series reported that up to 23% of thymolipomas weigh more than 2 Kg, whereas 68% weigh more than 500 grams.[13] Our specimen weighed 3.25 Kg when completely resected.

CONCLUSION:

In a patient presenting with an anterior mediastinal mass of fatty tissue, the diagnosis of thymolipoma should be considered. These tumors are benign, slow growing with late presentation of symptoms. Patients have an excellent long term prognosis after complete surgical excision.

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