RADIOLOGICAL ASSESSMENT IN THYMOLIPOMA

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Thymolipoma is one of the rare benign tumor of the anterior mediastinum. Very few reports are available in literature about the radiological findings which help in the pre-operative diagnosis of this condition. However, with the advent of CT scan a few cases have been diagnosed(1,2). In rare instances, thymolipoma may be associated with Grave's disease(3) and myasthenia gravis(4). We report a case of thymolipoma which was not associated with any syndromes but could be diagnosed pre-operatively because of the characteristic features seen on CT scan.

Case Report

An eleven-year-old boy presented with dyspnea and cough since five years which was progressively increasing. Cough was not associated with expectoration or hemoptysis. Dyspnea was not only exertional but was present at rest also. For these complaints he was treated by a local physician, but there was no response and so the child was referred to our hospital.

The child was moderately built with normal milestones. There was no cyanosis or anemia. The general physical examination was normal. Respiratory system examination revealed slight bulge in the upper part of chest, more so on the left side. Percussion note was dull in the first three intercoastal spaces on the left side and auscultation revealed decreased vocal resonance over that area. Laboratory examinations were insignificant.

Chest *X*-ray (*Fig. 1*) showed a homogenous opacity occupying almost the entire left hemithorax. The left CP angle was free. Pulmonary vessels were seen through the opacity, thus confirming the origin of the mass separate from pulmonary vessels. Lateral skiagram shows the density obliterating

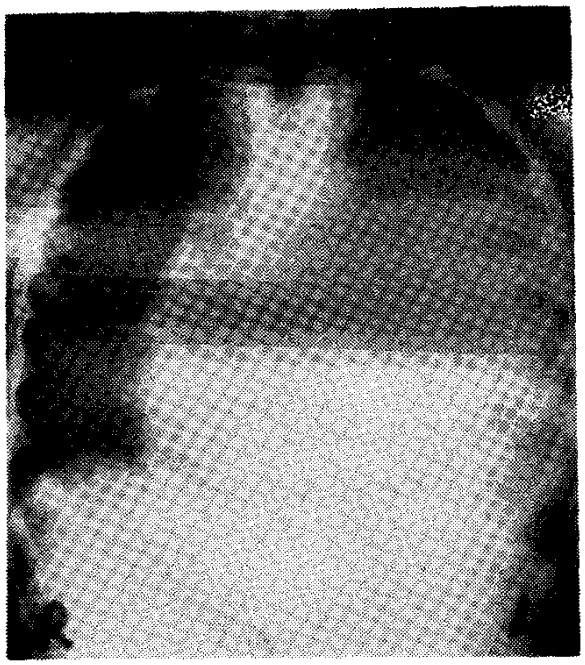

Fig. 1. Chest X-ray PA view showing a homogenous opacity occupying almost entire left hemithorax.

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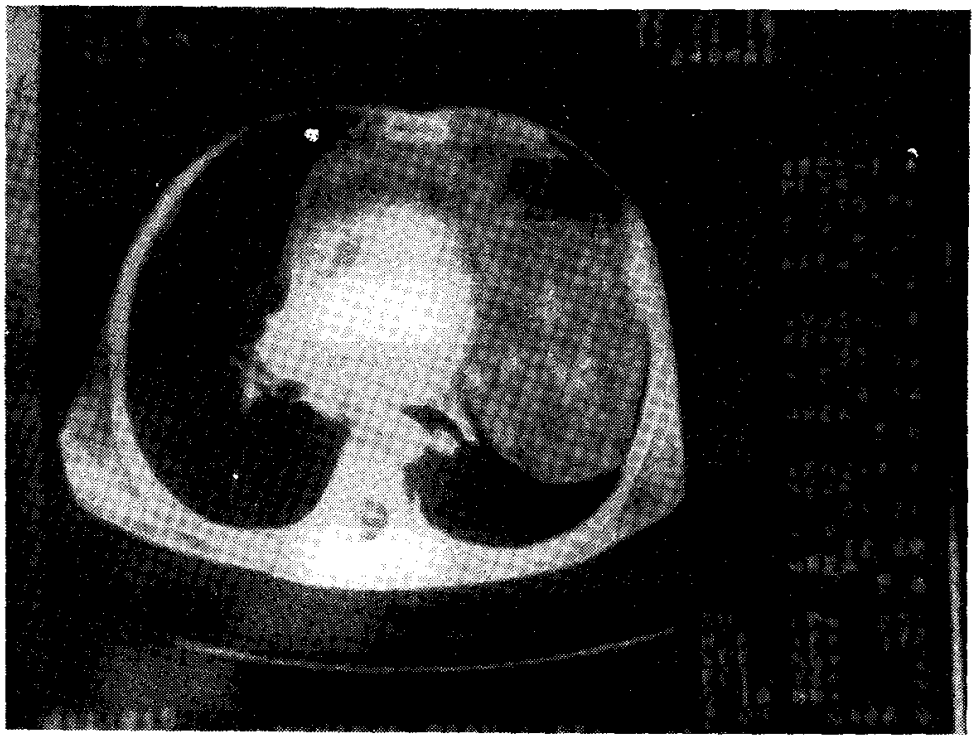

Fig. 2. CT scan showing anterior mediastinal mass which is extending into middle and posterior mediastinum. The mass is predominantly hypodense (–94 HU) with areas of soft tissue density (53 HU) within it.

the retrosternal air lucency and extending into the neck. This suggested the possibility of an anterior mediastinal mass. CT scan (*Fig. 2*) demonstrated a large mass extending from anterior mediastinum into the middle and posterior mediastinum.

The mass was hypodense (–94 HU) with non-uniform enhancement. Areas of soft tissue density were seen within it. There was no calcification seen within the mass. Because of the fat density and anterior mediastinal origin of the mass, a presumptive diagnosis of thymolipoma was mode. A differential diagnosis of a dermoid cyst was considered.

The child was operated by a sternotomy incision and a yellowish grey mass weighing about 3 kg was removed. The mass was entirely intrathoracic. Histologically, the mass was composed mainly of adult fatty tissue with aggregates of lymphocytes. Thymic tissue was seen without differentiation between cortex and medulla thus confirming the diagnosis of thymolipoma.

Discussion

Lange, in 1916, first described this tumor consisting mainly of adipose tissue and Islands of thymic tissue(5). Hall in 1948 introduced the name thymolipoma(6). Thymolipoma comprises 5% of all thymic tumors(2). Usually there is no sex predilection and the average age of presentation is 2nd and 3rd decade. Most of the patients are asymptomatic, but a few may complain of cough, dyspnea and chest pain(1).

Thymolipomas are located in the anterior mediastinum and attached to the heart by a vascular pedicle. As it enlarges in size it becomes an anterior inferior mediastinal

mass(4). The tumor is usually soft and pliable so there is little or no compromise on respiration or cardiac activity and the tumor does not cause pleural effusion. Various theories have been postulated for the pathogenesis of this tumor(2).

Plain *X*-ray shows a sharply circumscribed round on oval mediastinal density anterior to the base of heart. Roentgenographic density is usually less than that of non-fatty tissue(4), but this may be difficult to appreciate when the tumor is surrounded by air bearing tissues.

A few authors have shown change in shape on postural roentgenograph which is due to compressible nature of the tumor(4).

Ultrasound has a limited role in mediastinal masses. But it is an useful imaging modality in thymolipoma in which it shows a highly echogenic mass of fat nature. It can also exclude the possibility of pericardial cyst, pleural effusion, etc.

We feel that CT scan is the investigation of choice for any mediastinal mass, as it clearly defines the location and extent of the lesion and most often a diagnosis can be made due to density values of tumor tissue. In CT scan thymolipomas are seen as anterior mediastinal mass with fat density and multiple islands of soft tissue density within it. Enhancement is usually non-uniform with intravenous contrast.

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