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Invasive Thymoma In A Child Under 4 Years: A Rare Occurance

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Key words : -Thymoma, invasive thymoma, anterior mediastinum.

INTRODUCTION:

Thymomas are lymphoepithelial neoplasms that may be encapsulated (non-invasive) or lacally invasive [1]. Some 10-40% are invasive. They are most commonly seen in 4th & 5th decade or somewhat earlier in those who present with myesthenia gravis. Thymomas are rare under 20 years of age and extremely unusual below the age of 15 years [2].

We report a case of invasive thymoma in very young child only 4yrs of age.

CASE REPORT:

A 3 & 1/2 years old male child presented with respiratory distress, severe pallor & fever.

The chest radiograph revealed cardiomegaly & superior mediastinal widening.

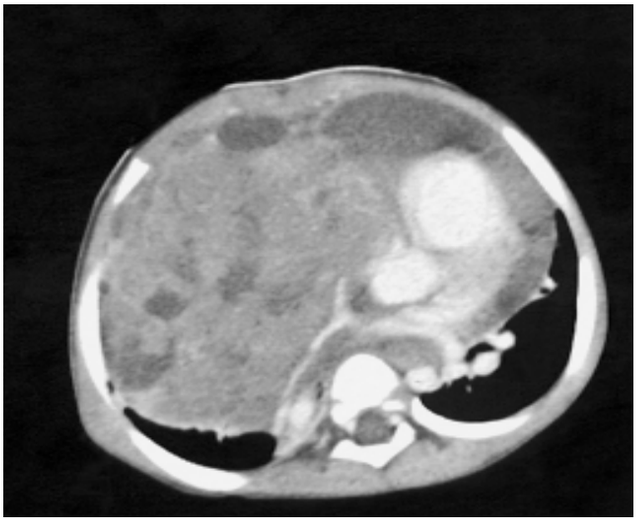

Fig 1

USG revealed a large homogenous mass arising from the mediastinum and extending across the mid line to protrude on either side with gross pericardial effusion.

CECT scan revealed a large somewhat heterogenous mass lesion in the anterior mediastinum, abutting the heart, displacing the great vessels posteriorly with associated compressive collapse of the lungs (Fig-1). The mass was seen to invade the right atrium and the superior vena cava which was better seen in saggital reformatted images (Fig-2). There was gross pericardial effusion, enlarged pulmonary trunk & pulmonary arteries (Fig-1 & 2).

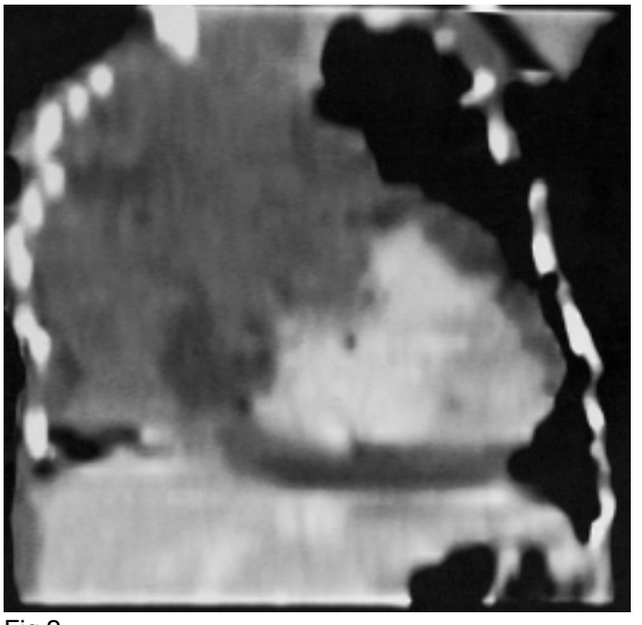

Fig 2

On FNAC it turned out to be a thymoma.

DISCUSSION:

Thymomas are usually encapsulated and as the cells

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are cytologically benign the terms noninvasive & invasive rather than benign & malignant should be used in characterizing them [1]. Albeit rare in children thymomas are more likely to be invasive & symptomatic in children than in adults [3].

Of patients with a thymoma, one third to one half are asymptomatic, and one third of patients present with local symptoms related to the tumor encroaching on surrounding structures [3]. The tumours may involve adjacent structures (eg. Great vessels, pericardium) or seed the pleural space. However they may only be adherent to a structure without invasion. Spread is usually confined to one hemithorax. Transdiaphragmatic extension may occur through the retrocrural space, through gaps in anteromedial aspect of hemidiaphragm or by direct invasion through the diaphragm. Tumours rarely metastasize to distant organs. Most arise from upper anterior mediastinum usually anterior to the ascending aorta & above the right ventricular outflow tract. They have lobulated margins. Calcification may be seen in both the benign & malignant forms however cystic changes are uncommon. Small thymomas are readily identified above the age of 40 yrs as rest of the gland is atrophic. Below 40 & particularly below 30 yrs the size of the gland is variable & diagnosing a small thymoma difficult. Fortunately in young adults & children this problem rarely arise as thymomas are so rare in this age group [4].

Thymomas usually show homogenous density & uniform enhancement. Invasion of the mediastinal fat & adjacent pleura may be identified with malignant thymoma & while the CT shows such invasion to advantage it cannot distinguish a benign from a malignant thymomas if the tumour is still confined to the thymus. Fibrous adhesions & inflammations around the tumour also can simulate invasion. Remote pleural metastases resulting from transpleural spread are a feature of malignant thymomas & therefore the whole of the pleural cavity should be carefully examined.

Obvious CT findings of invasive thymoma include encasement of mediastinal structures & pericardial / pleural implants or transdiaphragmatic spread.
Thymomas are classified into 3 histiologic types [3] based on the predominant cell type-lymphocytic, epithelial, and lymphoepithelial.

Table 1. Histological Classification of Thymoma

Cell Composition	Histological Type
More than one-third lymphocytic	Lymphocytic
Less than one-third lymphocytic	Epithelial
Neither more nor less than one-third lymphocytic	Lymphoepithelial (mixed)

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