

# Atypically Located Thymic Cyst: A Case Report

## Atipik Yerleşimli Timik Kist: Olgu Sunumu

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### SUMMARY

Thymic cysts of the mediastinum are uncommon lesions which are generally located at the anterior mediastinum. A 45-year old woman who had previously known asthma was referred to our clinic for evaluation of a right paratracheal lesion found on her chest roentgenogram. After clinical work-up, we detected a cystic lesion in the middle mediastinum. Surgical excision was performed via thoracotomy. Histopathologic study revealed a thymic cyst. In this case, we report a rare localization of thymic cyst presenting as a middle mediastinal mass.

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**Key Words:** Thymus, cyst, mediastinum

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### ÖZET

Timik kistler mediasteninin seyrek görülen lezyonlarıdır ve genellikle anterior mediastende yerleşirler. Orta ve posterior mediasten gibi diğer lokalizasyonlarda ise çok daha nadir görülürler. Önceden astım hastalığı olduğu bilinen kırk beş yaşında kadın hasta, akciğer filminde tespit edilen sağ paratrakeal lezyonun değerlendirilmesi amacıyla kliniğimize refere edildi. Yapılan tetkikler sonrası orta mediastende kistik lezyon saptandı. Torakotomi ile cerrahi eksizyon yapıldı. Histopatolojik tanı timik kist olarak geldi. Bu hastayı, timik kistin nadir bir lokalizasyonu olarak orta mediastende görülmesi nedeniyle sunduk.

(*Gazi Med J 2011; 22: 18-20*)

**Anahtar Sözcükler:** Timus, kist, mediasten

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### INTRODUCTION

Mediastinal thymic cysts constitute 1% of all mediastinal masses (1, 2). Although they are seen generally in the anterior mediastinum and prevascular area they may occur in the cervical region or other mediastinal compartments due to the embryological origin of the thymus. Other localizations of thymic lesions such as middle mediastinum are rare. Complete excision is sufficient treatment for this type of pathology. Surgical options include mediastinoscopic drainage, thoracoscopic excision and thoracotomy.

### CASE REPORT

A 45-year old woman was referred to our clinic for evaluation of a right paratracheal lesion found on chest roentgenogram. Her medical history included smoking and asthma. Her clinical examination was normal. The results of her routine laboratory analysis were within normal ranges. Chest roentgenogram showed a paratracheal lesion on the right side (Figure 1). Thoracic CT revealed a 4x3x5 cm sized mediastinal lesion surrounded by vascular structures (Figure 2). For excluding an invasion to vascular structures, we performed an

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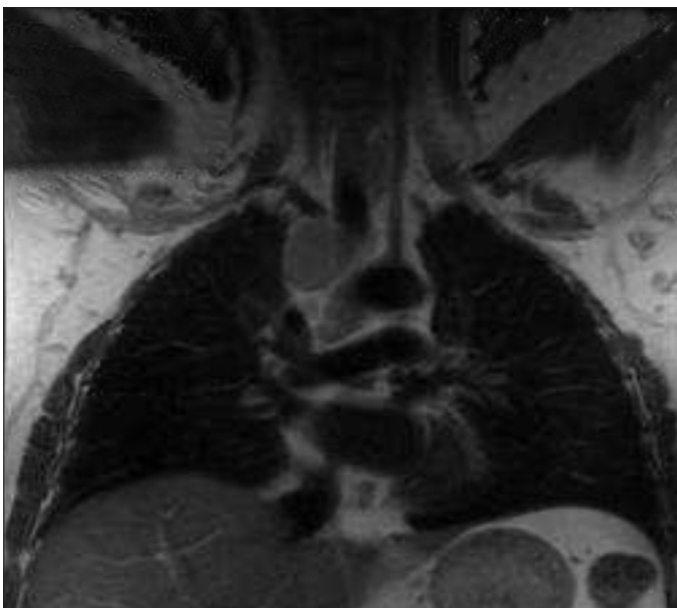
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**Figure 1.** Thorax roentgenogram showed right paratracheal lesion



**Figure 2.** Thorax CT revealed mediastinal lesion sized 3x5 cm which is surrounded by vascular structures



**Figure 3.** T1-weighted coronal section showed lobulated, smooth bordered solid lesion

MR study. T1-weighted MR of the chest showed a smooth mass with lobulated border of muscle density. T2-weighted chest MR coronal and axial plans showed that the mass had hyperintense signals consistent with fluid content (Figure 3, 4).

As MRI revealed an indistinct vision of fat tissue plan between borders of right brachiocephalic vein and the mass, mediastinoscopic or thoracoscopic drainage had not been considered. Thus a right posterolateral thoracotomy was performed. Macroscopically soft and rubbery mass filled by clear fluid was resected. Pathologic study showed a thymic cyst (Figure 5). The patient was discharged on the 6<sup>th</sup> day after operation.

## DISCUSSION

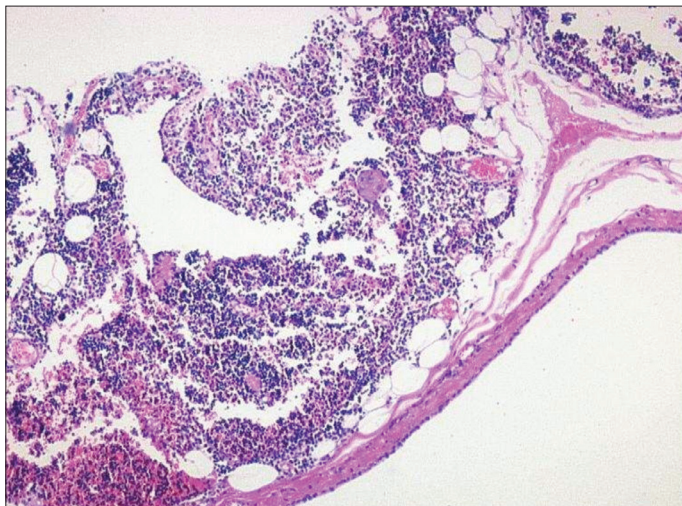
Thymic cysts of the mediastinum are rare lesions, accounting for 1% of all the mediastinal masses (1, 2). They can be congenital or acquired. In embryologic life, thymic tissue derives from the third pharyngeal pouch then migrates to the caudal and medial aspect. Finally thymic tissue is localized on the antero-superior mediastinum. If this migration period does not complete normally, an aberrant thymic tissue develops. Mainly they are located in two areas, cervical and mediastinal (3). Cervical thymic cysts are most commonly discovered in the first and second decades of life, whereas mediastinal thymic cysts are noted in the third to sixth decades.

Congenital cysts are true thymic cysts and are generally asymptomatic. 60% of mediastinal cysts and both cervicomediastinal cysts are symptomatic. Cervical thymic cysts frequently present with a lateral neck mass (4). They can cause compressive symptoms when they grow. Dyspnea, cough, chest pain or dysphagia has been described between these symptoms. The cysts range in size from 3 to 22 cm and all of them may compress adjacent structures. Sometimes they are associated with pericarditis, cardiac tamponade, Horner's syndrome and cervical masses (5).

Histopathologically, diagnosis of a thymic cyst can be established with thymic tissue in the cyst wall. There are two types of thymic cysts (6). The unilocular type, which is congenital, has a smooth



**Figure 4.** T2-weighted coronal section shows mass containing hyperintense signal with fluid character



**Figure 5.** Thymic cyst, which contains thymic tissue in the wall, was lined by a simple epithelium, H&E x100

fibrous capsule lined by epithelium. The multilocular type cysts are considered as a reaction to inflammation, they can transform to malignant lesions such as Hodgkin disease and seminomas (7, 8).

Asymptomatic lesions are often detected incidentally on chest radiography. CT scan is useful to confirm the extent and cystic nature of the lesion. CT scan findings include a well-margined, smooth and oval mass with homogenous attenuation. Generally there is no invasion to adjacent vascular or mediastinal structures. By MRI, the nature of the cysts and characteristic of the cystic fluid can be identified. Also MRI studies reveal adjacent structural invasion of the cyst (2).

Although the treatment of unilocular congenital thymic cysts is controversial, all thymic cysts should be removed by invasive or non-invasive surgical procedures. Some authors even mention mediastinoscopic drainage, surgical excision generally done either by the open method such as median sternotomy and thoracotomy, or by a video-assisted surgery. Both definitive diagnostic procedures and curative treatments are achieved by surgery. Mortality and morbidity rates are very low.

#### Conflict of Interest

No conflict of interest was declared by the authors.

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