

Mediastinal Cystic Teratomas: Case Report

Mediastinal Kistik Teratomlar

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ABSTRACT Cystic teratoma is the most common primary germ cell tumor of mediastinum and is usually asymptomatic. We present the typical and unusual clinical, radiological features of patients with mediastinal cystic teratoma. We aimed to evaluate retrospectively the clinical and radiological features of five patients with mediastinal teratomas in Chest Diseases and Thoracic Surgery Hospital. The mean age of patients was 29.7 and the male to female ratio was 1/4. Most common symptom was chest pain, especially in patients with ruptured cystic teratomas. The typical radiologic finding of mediastinal teratomas was well capsulated cystic mass lesion in all of patients. Mostly, they were localized in the right and in anterior mediastinum. All patients were diagnosed and treated by surgical resection. Mediastinal teratomas have typical radiologic features. They can be diagnosed by torax CT or MRI. Although they are usually asymptomatic, they can be symptomatic because of rupture into the adjacent structures. Surgical resection is enough for the treatment of benign cystic mediastinal teratomas.

Key Words: Mediastinal cyst; mediastinal neoplasms; dermoid cyst; teratoma

ÖZET Kistik teratom, mediasteninin en sık primer germ hücreli tümörüdür ve genellikle asemptomattır. Biz, mediastinal kistik teratomlu hastaların tipik ve alışılmamış olan klinik, radyolojik özelliklerini sunuyoruz. Göğüs Hastalıkları ve Göğüs Cerrahisi Hastanesinde tanı konulan mediastinal kistik teratomlu 5 hastanın klinik ve radyolojik özelliklerini retrospektif olarak incelendi. Hastaların ortalama yaşı 29.7 ve erkek/kadın oranı 1/4 idi. Özellikle rüptüre olmuş mediastinal kistik teratomlarda olmak üzere, en sık semptom göğüs ağrısı idi. Mediastinal teratomların tüm hastalardaki tipik radyolojik bulgusu iyi sınırlı ve kapsüllü kistik kitle lezyonu idi. Sıklıkla sağ ve ön mediastende lokalize olmuşlardı. Tüm hastalar total cerrahi rezeksiyon ile tanı konmuş ve tedavi edilmişlerdir. Cerrahi sonrası çıkarılan lezyonların patolojik incelenmesinde maligniteye rastlanmamıştır. Mediastinal teratomların tipik radyolojik özellikleri vardır. Toraks CT ve MR görüntülemesi ile tanı konulabilir. Genellikle asemptomatik olmalarına rağmen, komşu dokuların içine doğru rüptüre olarak semptomatik olabilirler. Total cerrahi rezeksiyon benign kistik teratomların tedavisi için yeterlidir.

Anahtar Kelimeler: Mediasten kisti; mediastinal tümörler; dermoid kist; teratom

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Teratoma originate from pluripotent germ cells and they are composed of ectodermal, mesodermal and endodermal derivatives.^{1,2} Teratomas comprise up to 15% of all mediastinal masses. They are commonly localized in the anterior mediastinum and they grow slowly.³ They are usually asymptomatic and diagnosed incidentally. We present the clinical and radiological features in five patients with mediastinal teratoma.

MATERIAL AND METHODS

Benign mediastinal teratomas were diagnosed in five patients at Samsun Chest Diseases and Thoracic Surgery Hospital between the years 2005-2009. We retrospectively evaluated the clinical and radiological features of patients. They were diagnosed histopathologically and treated by surgically. The approval of patients and institution were taken to use their records for our study. Written informed consent was obtained from the patient for publication of this case report and accompanying images.

RESULTS

The characteristics of patients were shown in table 1. The mean age of patients was 29.7 (min 19-max 59) years old. One of them was male, four of them were female (male/female ratio was 1/4). Most common symptom was chest pain in four patients. Cough was in two patients and dyspnea was in two patients. The characteristic radiologic finding of teratomas was well capsulated cystic mass lesion in all patients. Benign cystic teratomas were lobulated in two cases. In two patients, teratomas were associated with pleural effusion. They were localized in the right mediastinum in four patients. Also, in three cases they were localized in the anterior mediastinum. In other two patients, teratomas were seen in upper mediastinum and posterior mediastinum. All teratomas were confirmed and treated by total surgical resection. After the histopathologic examination, malignant component were not found in teratomas.

DISCUSSION

Teratomas of the mediastinum have low incidence rate constituting only 8-13% of all tumors in this region and only 1-10% of germ-cell tumours are

found in the mediastinum.^{1,2,4,12} Sagdic et al., reported that three cases with benign cystic teratoma among fifty-one patients with primary mediastinal masses.⁵ Mediastinal teratomas are mostly (95% of patients) located in anterior mediastinum.⁶ In the present study, they were localized on right mediastinal structures in four patients and three of them were localized on right-anterior mediastinum. They can be seen at any age but they can mostly be seen in adults, especially in 20-40 years of age.⁷ The mean age of patients was 29.7(min 19-max 59) years old. The male to female ratio was 1/4. They are usually asymptomatic. If the cystic teratomas are ruptured into the pleural cavity and adjacent organs, they can be symptomatic. Other clinic symptoms depend on the size, the location of the tumor and the presence or absence of complications. Several symptomatic cases were reported due to rupture of the mediastinal cystic teratoma.^{8,9} In this study, the most common symptom was chest pain. In two cases, teratomas were found with pleural effusion due to rupture of cystic teratoma.

The chest radiography typical shows the well circumscribed anterior mediastinal mass and it often protrudes into one of the lung fields just like our cases (Figure 1). Diagnostic CT appearances are a capsulated mass with a smooth wall containing soft tissue, fluid, fat, calcification or any combination of these.^{3,9,10} In present study, the CT and MR images were showed the well capsulated, lobulated and heterogenous cystic mass lesions. They were the typical diagnostic findings of cystic teratomas (Figure 2 and 3).

Mediastinal teratomas may be mature (80% of cases) or immature (foetal tissue is histologically present) and they don't usually contain malignant component.³ Radical surgical removal is enough for

TABLO 1: Characteristics of patients.

Patients	Age (year)	Gender	Symptoms	Radiology	Location
1.	19 y.	Male	Chest Pain	Capsulated mediastinal mass	Left upper
2.	59 y.	Female	Chest PainCough	Lobulated and capsulated mediastinal mass	Right Anterior
3.	21 y.	Female	DyspneaCough	Capsulated mediastinal massPleural effusion	Right Anterior
4.	20 y.	Female	Chest Pain	Capsulated mediastinal mass	Right Anterior
5.	27 y.	Female	Chest PainDyspnea	Lobulated and capsulated cystic massPleural effusion	Right posterior



FIGURE 1: Chest X-ray showing the well circumscribed anterior mediastinal mass.

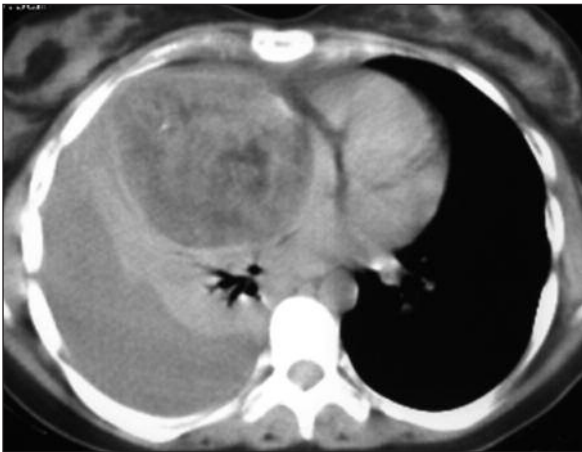


FIGURE 2: Thorax CT scan showing the heterogenous, capsulated mass lesion with pleural effusion and atelectasis. Also, right atrium and right ventricle had been compress by the mass.

the treatment for mature teratomas and there is no recurrence after complete resection.¹¹ In our study, mediastinal cystic teratomas were removed by surgically in all patients. After the histopathologic examination, malignant component were not found in teratomas.

In conclusion; mediastinal teratomas are mostly seen in young women. The most common location of teratomas is the right mediastinal area. They are usually asymptomatic but they can present with pleural effusion and chest pain as a result of cystic teratoma rupture. The CT and MR images are characteristic for the diagnosis. The total surgical resection is enough for treatment because they don't usually contain malignant component.



FIGURE 3: Thorax MR image showing the capsulated, heterogenous mass lesion.

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