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Original study

Thymolipoma cases resembling radiologically to thymoma

Radyolojik olarak timomaya benzeyen timolipoma olguları

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ABSTRACT

Thymolipomas are rare tumours composed of a mixture of mature fat and thymic tissue. This paper describes six thymolipoma cases resembling radiologically to thymoma. This retrospective study evaluated the thymolipomas from six patients at a single institution, which were resected between 2010 and 2018. The clinical data as well as radiologic findings were evaluated, together with the follow-up. The clinical, radiologic, and pathologic features of 6 cases of mediastinal thymolipoma resembling radiologically to thymoma are presented. Clinically, the majority of patients (4 cases) were asymptomatic. One patient presented with upper respiratory symptoms and myasthenia gravis, and other patient presented with chest pain. Radiographically, 6 cases showed an anterior mediastinal tumor; when available, computed tomography and/or magnetic resonance imaging demonstrated an anterior mediastinal mass lesion of different densities depending on the adipose and thymic tissue contents. All the tumors were located in the anterior mediastinum and in all cases complete surgical resection of the mass was accomplished. None of these patients had evidence of recurrence or residual tumor on follow-up. Thymolipoma is a rare, benign thymic tumor consisting primarily of fat. Thymolipoma may sometimes be seen as a soft tissue mass in fatty tissue and it may be considered as a thymoma.

Key words: Thymolipoma, mass, thymoma.

ÖZET

Timolipomalar matür yağ ve timik doku karışımından oluşan nadir tümörlerdir. Bu yazıda radyolojik olarak timomaya benzeyen 6 timolipoma olgusu sunuldu. Bu geriye dönük çalışmada, 2010 ile 2018 yılları arasında tek merkezde rezeke edilen 6 timolipomalı hasta değerlendirildi. Olguların takibi ile birlikte, radyolojik bulguları yanında klinik verileri değerlendirildi. Radyolojik olarak timomaya benzeyen mediastinal timolipomalı 6 olgunun klinik, radyolojik ve patolojik özellikleri sunuldu. Klinik olarak olguların çoğu (4 olgu) asemptomatik idi. Bir olgu myestenia gravis ve üst solunum yolu semptomları, diğer olgular ise göğüs ağrısı ile prezente oldu. Radyolojik olarak 6 olguda anterior mediastende kitle görüldü. Bilgisayarlı tomografi ve/veya Magnetik rezonans görüntülemede yağ ve timik doku üzerinde farklı dansitelerde mediastinal kitle lezyonları görüldü. Tüm tümörler anterior mediastende yerleşmişti ve tüm olgularda kitle cerrahi olarak komplet rezeke edildi. Takiplerde hiç bir olguda rekürrens veya rezüdü tümör sapatanmadı. Timolipoma primer olarak yağ içerikli nadir, benign bir tümördür. Timolipoma bazen yağlı doku içerisinde yumşak doku kitlesi olarak görülebilir ve timoma olarak değerlendirilebilir.

Anahtar kelimeler: Timolipoma, kitle, timoma.

INTRODUCTION

Thymolipoma is a rare benign tumor of the mediastinum constituting only 2% to 9% of all thymic neoplasma. Most patients are asymptomatic and show large anterior mediastinal masses on chest X-ray. On computed tomography (CT), thymolipoma usually appears as a fatty density containing soft tissue streaks wich represent islands of normal thymic component

(1). However, it may sometimes be seen as a soft tissue mass in a fatty tissue. Additionally, a thymolipoma may rarely be associated with thymoma or thymoma may be arised within tymolipoma. So it may radiologically look like thymoma. This paper describes six thymolipoma cases resembling radiologically to thymoma

MATERIAL and METHOD

Between 2010 and 2018, 94 patients underwent a resection of the mediastinum mass. The resection was performed for different pathologies of the thymus in 54 of those patients. Among the 54 patients with pathology of the thymus, 39 patients had a thymoma or a thymic carcinoma, 9 patients a thymolipoma, and 6 patients other thymic diseases, such as neuroendocrine tumors, lymphofollicular hyperplasia, thymus hyperplasia, or normal thymi. Six of the tymolipomas were radiologically similar to thymoma.

Data were gathered through a retrospective chart review, and all physicians in charge of the patients were contacted for the most recent follow-up. Imaging was performed by CT scanning and X- ray at the time of the surgical resection. Two patients underwent magnetic resonance imaging (MRI).

The following variables were determined and analyzed: age, gender, symptoms, results from chest X-ray and CT of the chest, size of the tumor, surgical approach, postoperative complication, and follow-up. All imaging results were reviewed by an experienced radiologist. The histology of all of the resected tumor specimens was reviewed by a histopathologist experienced in thoracic pathology.

RESULTS

The clinical, radiologic, and pathologic features of 6 cases of mediastinal thymolipoma resembling radiologically to thymoma are presented. The patients' ages ranged from 25 to 64 (mean, 37) years; 2 were male and 4 were female. Clinically, the majority of patients (4 cases) were asymptomatic. One patient presented with upper respiratory symptoms and myasthenia gravis, and other patient presented with chest pain. The preoperative serum acetylcholine antibody titer was elevated in patient with myasthenia gravis. Radiographically, 6 cases showed an anterior mediastinal tumor; when available, CT and/or MRI demonstrated an anterior mediastinal mass lesion of different densities depending on the adipose and thymic tissue contents (Figure 1-3).

DISCUSSION

Thymolipoma, is an anterior mediastinal relatively uncommon benign tumor that consists of thymic and fatty tissue which is surrounded by a capsule. Lange, in 1916 first described a case with thymolipoma (2). Although thymolipoma can occur at any age, 80% of the tumors occur during the 4th decade of life. There appears to be no gender-related difference in the incidence (3). The tumor is generally unaccompanied by symptoms and can be large when first detected, usually on chest radiographs.

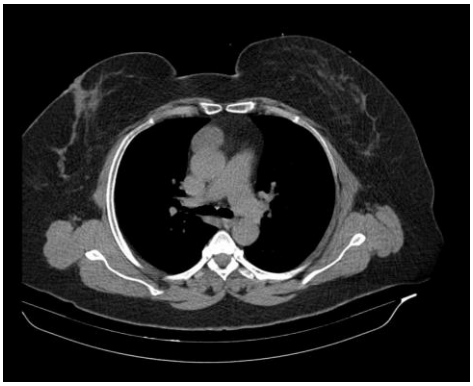

Figure 1:

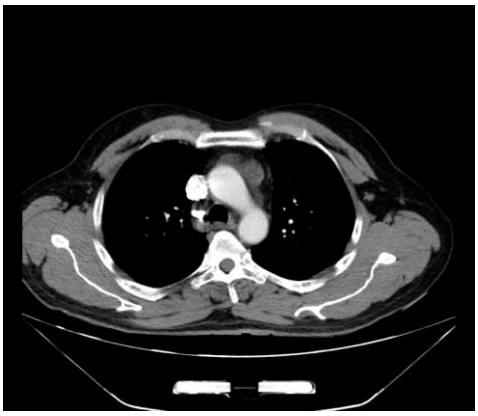

Figure 2:

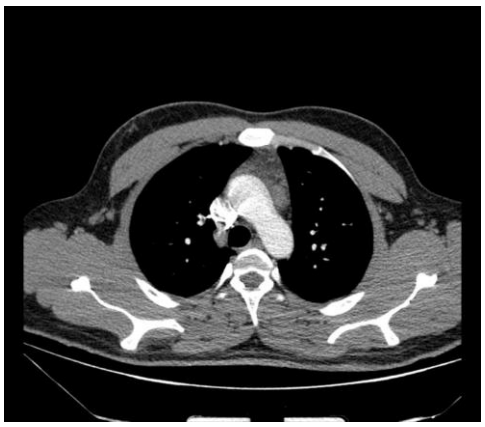

Figure 1-3: Computed tomography demonstrated anterior mediastinal mass lesions of different densities depending on the adipose tissue contents

Thymolipoma is depicted on plain chest Xray, CT and MRI as an anterior mediastinal mass lesion of different densities depending on the adipose and thymic tissue contents. Radiological differential diagnosis should include many other lesions; mediastinal teratoma, lipoma, liposarcoma, thymic hyperplasia, cardiomegaly, thymic cyst and omental herniation can be mentioned among these (4). However, diagnosis cannot be made based only on radiological tests; a

surgical biopsy is necessary. As transthoracic biopsy with a fine needle or with tru-cut cannot provide a differential diagnosis differentiating it from other benign tumors of the anterior mediastinum such as lipoma or a mature teratoma or low-grade malignant tumors like the well-differentiated (lipoma-like) liposarcoma (5). Surgery is required and represents the treatment of choice.

Thymolipoma may be associated with thymoma or thymic malignant lymphoma (6,7). Timolipoma has actually different appearance with timoma. Thymolipomas can grow to a very large size before discovery and, being soft, mould themselves to the adjacent mediastinum and diaphragm, and may mimic cardiomegaly or lobar collapse. CT shows the fatty nature of the mass, with islands of thymus and fibrous septa running through the lesion (4,8). Thymomas typically manifest on chest radiographs as well marginated, smooth, or lobulated anterior mediastinal masses. They are typically unilateral and located anterior to the aortic arch, but can also occur in the cardiophrenic angle (9). On CT, they manifest as homogeneous or more usually as heterogeneous masses of soft tissue attenuation (10). In our study, CT shows the mass in fatty nature lesion. We first considered the diagnosis as thymolipoma accompanying thymoma. But the results of pathological examination were consistent with timolipoma.

As thymomas, thymolipomas are sometimes associated with myasthenia gravis, aplastic anemia, hypogammaglobulinemia, lichen planus, and Graves' disease (4,11,12). The incidence of myasthenia gravis associated with thymolipomas is between 2.8% and 50% (13,14). The symptoms of myasthenia gravis may improve after the resection of the tumor in some patients (14). In our study, one patient had myasthenia gravis. The anterior mediastinal mass was detect on CT scan. The mass was removed en bloc though an anterior thoracotomy. The patient experienced a postoperative exacerbation of myasthenia gravis and still being treated with active cholinesterase inhibitors.

Treatment of thymolipomas involved complete excision and was generally curative, making long-term follow-up unnecessary. The complet excision is helpful in reducing symptoms caused by the compression of adjacent structures and autoimmune diseases. No cases of malignant transformation or local recurrence have been reported in the literature. None of our patients had evidence of reccurrence or residual tumor on follow-up. One patient died during follow-up due to prostate cancer, and all other patients are alive.

In conclusion, thymolipoma is a rare, benign thymic tumor consisting primarily of fat. Thymolipoma may sometimes be seen as a soft tissue mass in fatty tissue and it may be considered as a thymoma.

Conflicts of interest

None declared.

Author contributions

Concept - H.E.; Planning and Design - H.E.; Supervision - H.E.; Funding - H.E.; Materials - T.S.; Data Collection and/or Processing - T.S.; Analysis and/or Interpretation - H.E.; Literature Review - H.E.; Writing - H.E.; Critical Review - H.E.

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