Co-existing Thymolipoma and Primary Lung Cancer: Case Report

Timolipoma ve Primer Akciğer Kanseri Birlikteliği

Adnan YILMAZ, MD,[a]
Ebru DAMADOĞLU, MD,[a]
Leyla YAĞCI TUNCER, MD,[a]
Ebru SULU, MD,[a]
Huriye BERK TAKIR, MD,[a]
Volkan BAYSUNGUR, MD[b]
Reha BARAN, MD[a]

[a]Department of Pulmonology,
[b]Department of Thoracic Surgery,
Sureyyapasa Chest Diseases and Thoracic Surgery Training and Research Hospital, İstanbul

Yazışma Adresi/*Correspondence:*
Adnan YILMAZ, MD
Sureyyapasa Chest Diseases and Thoracic Surgery Training and Research Hospital, Department of Pulmonology, İstanbul
TÜRKİYE/TURKEY

ABSTRACT A case with coexisting thymolipoma and primary lung cancer was presented. A 42 year- old-man was referred to a physician on December 2003 complaining of fatigue and eyelid weakness for 2 years. Pyridostigmine (mestinon) and azathioprine treatment was started with the diagnosis of Lambert-Eaton syndrome. Computed tomography of the thorax was reported as normal. Five months later, on May 2004 it showed a solitary pulmonary nodule on left upper lobe which is 1cm in diameter. Bronchoscopic appearance was normal. A mass lesion three centimeter in diameter in anterior mediastinum and a nodule 1x1 cm in diameter in left upper lobe were seen at thoracotomy. Mediastinal mass was removed and left upper lobectomy was performed. Mediastinal mass was a thymolipoma and the nodule on left upper lobe was reported as an adenocarcinoma. The pathological stage of lung cancer was T1N1Mx. There was no evidence of recurrence or residual tumor 3 years after surgery.

Key Words: Thymolipoma, primary lung cancer, coexistence, Lambert-Eaton Syndrome, myasthenia gravis

ÖZET Timolipoma ve akciğer kanseri birlikteliğinin bir olgusu sunuldu. Kırk iki yaşında erkek hasta 2 yıldır devam eden halsizlik ve göz kapağında güçsüzlük yakınmaları ile Aralık 2003'de doktora başvurmuş. Hastaya Lambert-Eaton Sendromu tanısı ile piridostigmin (mestinon) ve azothiopirin başlanmıştı. Toraks bilgisayarlı tomografisi normal olarak rapor edilmişti. Beş ay sonra, Mayıs 2004'de tomografi sol üst lobda 1 cm çapında bir soliter pulmoner nodül gösteriyordu. Hasta merkezimize sevk edilmişti. Bronkoskopik görünüm normaldi. Torakotomide, ön mediastende 3 cm çaplı kitle ve sol üst lobda 1x1 cm boyutunda nodül görüldü. Mediastinal kitle çıkartıldı ve sol üst lobektomi yapıldı. Mediastinal kitle timolipoma idi ve sol üst lobdaki nodül adenokarsinom olarak rapor edildi. Akciğer kanserinin patolojik evresi T1N1Mx idi. Cerrahiden 3 yıl sonra nüks veya rezidüel tümör bulgusu yoktu.

Anahtar Kelimeler: Timolipoma, primer akciğer kanseri, birliktelik, Lambert-Eaton sendromu, miyastenia gravis

Turkish Medical Journal 2008;2(3):147-50

Thymolipoma is an uncommon benign tumor of the thymus. Its incidence is approximately 0.12 cases per 100 000 inhabitants year.[1] It represents less than 10% of all thymic neoplasms.[2] Thymolipomas are histologically composed of mature adipose tissue and thymic tissue in variable portions .[3] They may be associated with disorders such as Graves' disease, pure red blood cell aplasia, aplastic anemia, hypogammaglobulinemia, myasthenia gravis, and Hodgkin's disease.[3-5] Several reports point out that thymoma is associated with an increased risk of second malignancy.[6,7]

The rate of additional neoplasms among patients with thymoma varies from 3% to 27%.[6] According to our knowledge, coexisting thymolipoma and primary lung cancer has not been reported in English medical literature. So we presented the case with coexisting thymolipoma and primary lung cancer.

CASE REPORT

A 42 year- old-man was referred to a physician on December 2003 complaining of fatigue and eyelid weakness for 2 years. Pyridostigmine (mestinon) and azathioprine treatment was started with the diagnosis of Lambert-Eaton syndrome. Chest x-ray and computed tomography of the thorax showed no tumor or other abnormalities. Five months later, on May 2004 it showed a solitary pulmonary nodule on left upper lobe which is 1cm in diameter (Figure 1 and 2). Patient was referred to our center. He had 20 pack-years of smoking history. Physical examination was normal. All laboratory tests were normal. Bronchoscopic examination demonstrated normal appearance. The erythrocyte sedimentation rate was 40 mm/h. Pulmonary function studies showed a vital capacity of 3.27 litres and FEV1 2.3 liters. At thoracotomy, 3 cm in diameter mass lesion in anterior mediastinum and 1x1 cm in diameter nodule in left upper lobe were seen. Thymectomy and left upper lobectomy was performed. Mediastinal mass was reported as thymolipoma (Figure 3). The nodule on left upper lobe was an adenocarcinoma. The pathological stage of lung cancer was T1N1Mx. After operation patient's symptoms were partially improved. There was no evidence of recurrence or residual tumor 3 years after surgery.

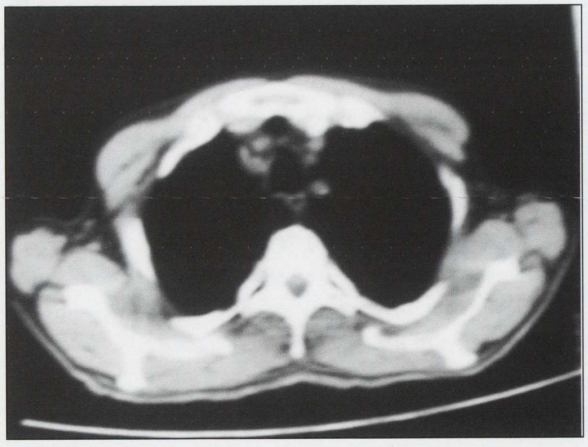

FIGURE 1: Computed tomography of the thorax shows normal mediastinum.

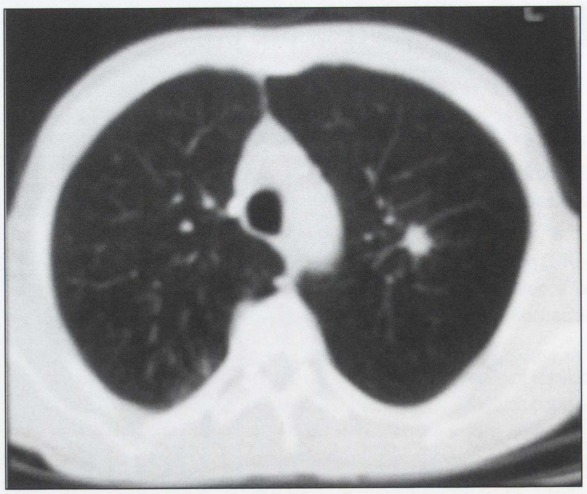

FIGURE 2: Computed tomography of the thorax shows a 1x1 cm in diameter nodule in left upper lobe.

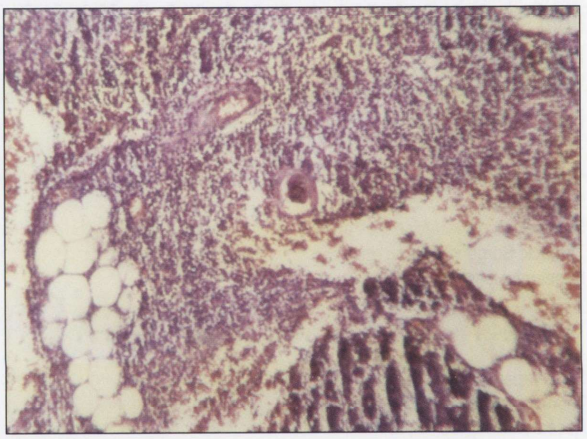

FIGURE 3: Microscopic appearance. The tumor resected from mediastinum showed thymic tissue containing a Hassall's corpuscle admixed with adipose tissue(thymolipoma)

DISCUSSION

It is well known that thymic tumors may be accompanied with nonthymic malignancies.[6-9] A previous report described a case with invasive thymoma synchronously accompanied by a lung cancer.[8] Iwata et al[9] reported a case of thymic small cell carcinoma associated with pulmonary squamous cell carcinoma. An increased risk of develo-

396

ping an additional primary malignancy in extrathymic organs has been reported for patients with thymoma, with a reported incidence rate from 3% to 27%.[6] The number of patients with 3 or more primary neoplasms among patients with thymoma was high.[7] Welsh et al[10] described the development of five primary tumors in a single patient.

The underlying mechanism of increased risk is unclear. The first possible explanation of the increased risk is related to radiotherapy.[6,10] The role of the thymus as an organ of immunologic surveillance is the second possible explanation of the increased risk.[6,8] Cancer is not generally considered as an immunological disorder, but it affects and is affected by immunological factors. It was reported that the lung cancer may have been affected by the presence of a thymoma because the thymus plays a very important role in the oncogenesis of the extrathymic organs by its involvement with regulation of the immune system.[8] Several cytogenetic abnormalities have been reported in patients with thymoma. The oncogenetic tendency of the patients with thymoma and malignancy is another intriguing point.[10]

We present a case with coexisting thymolipoma and primary lung cancer. According to our knowledge, this patient is the first case of coexisting thymolipoma and primary lung cancer in English medical literature. His age was 42 years. Thymolipomas occur most frequently in young adults, with no sex predilection.[11] The mean age was 26.7 and 34.1 years in two previous reports.[12,13] Our patient had higher age compared to these patients. Pan et al[14] pointed out that patients of thymolipoma without myasthenia gravis were younger than those with myasthenia gravis. It was reported that the patients with thymoma with second malignancy had higher age compared to those without second malignancy.[6] The patients with thymolipoma may be asymptomatic. Most are discovered incidentally.[13] The radiologic appearance of thymolipoma is variable. Radiographs may show cardiomegaly, mediastinal mass or widening. They may not show any abnormality.[3,11-13] Thymolipoma was radiologically invisible in our case. It was incidentally detected at thoracotomy. Dalokay et al[15] reported a case with radiologically invisible thymolipoma. In their case, although computed tomography of the thorax showed no mass, extended thymectomy was performed. In our case, synchronous primary malignancy was lung cancer. He had no pulmonary symptoms or signs suggesting lung cancer. Nodule was incidentally detected by computed tomography.

In our case, thymolipoma and primary lung cancer were diagnosed at the same time. Pan et al[6] reported that 15 patients with thymoma had primary malignant tumors in other organs. In two patients, the extrathymic tumors occurred first. In four patients, thymoma and the other tumors were diagnosed at the same time. In the remaining 9 patients, the second tumors appeared metachronously. In our case, diagnosis of thymolipoma and lung cancer was established by thoracotomy. Mediastinal mass was removed and left upper lobectomy was performed. After operation patient's symptoms due to Lambert-Eaton syndrome were partially improved. There was no evidence of recurrence or residual tumor 3 years after surgery. The treatment of thymolipoma is surgical resection. It does not recur after surgery.[3,13,16] Removal of thymus, including the tumor, is followed by gradual improvement of the symptoms.[3,13]

In conclusion, thymolipoma is a rare tumor. Although thymolipoma is a benign tumor, it may be associated with a second primary malignancy. Our case demonstrates that primary lung cancer is one of the disorders associated with thymolipoma.

397

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398