doi • 10.5578/tt.27665
Tuberk Toraks 2016;64(4):306-309
Geliş Tarihi/Received: 10.06.2016 • Kabul Ediliş Tarihi/Accepted: 01.08.2016

OLGU SUNUMU
CASE REPORT

A case of tracheal leiomyoma misdiagnosed as asthma

Ayperi ÖZTÜRK[1]
Zafer AKTAŞ[1]
Aydın YILMAZ[1]
Havva YEŞİLDAĞLI[1]
Leyla MEMİŞ[2]

[1] Clinic of Interventional Pulmonology Ankara Ataturk Chest Diseases and Chest Surgery Training and Research Hospital, Ankara, Turkey
[1] *Ankara Atatürk Göğüs Hastalıkları ve Göğüs Cerrahisi Eğitim ve Araştırma Hastanesi, Girişimsel Pulmonoloji Kliniği, Ankara, Türkiye*
[2] Department of Pathology, Faculty of Medicine, Gazi University, Ankara, Turkey
[2] *Gazi Üniversitesi Tıp Fakültesi, Patoloji Anabilim Dalı, Ankara, Türkiye*

SUMMARY

A case of tracheal leiomyoma misdiagnosed as asthma

Primary benign tumors of trachea are rare. Of them, tracheal leiomyoma, constitutes only 1% of all benign lower respiratory tract tumors. Here, we present a case of tracheal leiomyoma who has been receiving high doses of inhaled corticosteroids and bronchodilators for a year with a misdiagnosis of asthma. As the symptoms did not resolve with an overtreatment, she has been undergone radiologic study to find a possible alternative diagnosis. The chest roentgenogram revealed an opacity in the upper mediastinum. In computed tomography, a lesion has been detected in proximal trachea, arising from the posterior wall and protruding through the lumen and almost obliterating the air column. Rigid bronchoscopy has been performed under general anesthesia due to a high risk of bleeding and the endobronchial lesion, freely moving with respiration, has been removed and cryotherapy was applied to the base of the lesion. Receiving the histopathological diagnosis of leiomyoma, the patient is now on 12th month of the follow-up without any recurrence.

Key words: *Endotracheal leiomyoma, cryotherapy, asthma*

ÖZET

Astım tanısı alan trakeal leiyomiyom olgusu

Trakeanın primer tümörleri genellikle maligndir; benign tümörleri ise nadir görülür. Trakeal leiyomiyomlar alt solunum yolu benign tümörlerinin %1'ini oluşturur. Astım tanısıyla bir yıldır takip edilen 25 yaşında kadın hastanın düzenli inhaler tedaviye rağmen dispnesinin gerilememesi nedeniyle çekilen akciğer grafisinde orta zonda opasite izlendi. Bilgisayarlı tomografisinde trakea proksimalinde posterior duvardan lümene uzanan, hava sütununu tama yakın daraltan lezyon saptandı. Lezyonun kanama riski gözönünde bulundurularak genel anestezi altında rijid bronkoskopi yapıldı ve trakeayı tama yakın tıkayan solunumla hareketli endobronşiyal lezyon çıkarıldı; lezyon tabanına kriyoterapi uygulandı. Histopatolojik olarak leiyomiyom tanısı alan hasta takibinin 12. ayındadır.

Anahtar kelimeler: *Endotrakeal leiyomiyom, kriyoterapi, astım*

Yazışma Adresi (Address for Correspondence)

Dr. Ayperi ÖZTÜRK

Ankara Atatürk Göğüs Hastalıkları ve Göğüs Cerrahisi Eğitim ve Araştırma Hastanesi, Girişimsel Pulmonoloji Kliniği, ANKARA - TURKEY

e-mail: drayperi@yahoo.com

INTRODUCTION

Tracheal leiomyoma makes 1% of benign lower respiratory tract tumors (1). It originates from smooth muscle cells of trachea. Only 30% of the tumors can be detected with direct graphs; thus can easily be missed (2). Due to the symptoms of progressive dyspnea, wheezing, coughing, cyanosis the condition can clinically be confused with obstructive lung diseases like asthma. While surgical resection is generally suggested in the treatment of leiomyoma, endobronchial methods like Nd-YAG laser, cryotherapy, electrocautery can also be used.

CASE

A twenty five year-old-female patient, who had been followed with the diagnosis of asthma for almost one year, has admitted to our clinic for an uncontrolled disease despite regular inhaler treatment. Past medical history was unremarkable. In physical examination stridor was present.

Laboratory tests were normal but respiratory function test was consistent with fixed obstruction (Figure 1A). In the computed tomography, which was ordered to observe the opacity in the upper mediastinum on chest roentgenogram and a polypoid lesion was seen with a diameter of 12 mm, located in the middle part of trachea and approximately 3 cm cranial to aorta level, protruding from posterior wall to lumen and narrowing the air column by 90% (Figure 2A,B,C).

As the lesion was located in trachea, near completely obliterating the lumen and having the risk of bleeding; rigid bronchoscopy was performed under general anesthesia. A smooth surfaced polypoid lesion rich vessels of submucosal was located 5 cm distal to the vocal cords, originating from the membranous part of the posterior wall of trachea (Figure 3A,B). It was cauterized with 40 watt electrocautery and removed

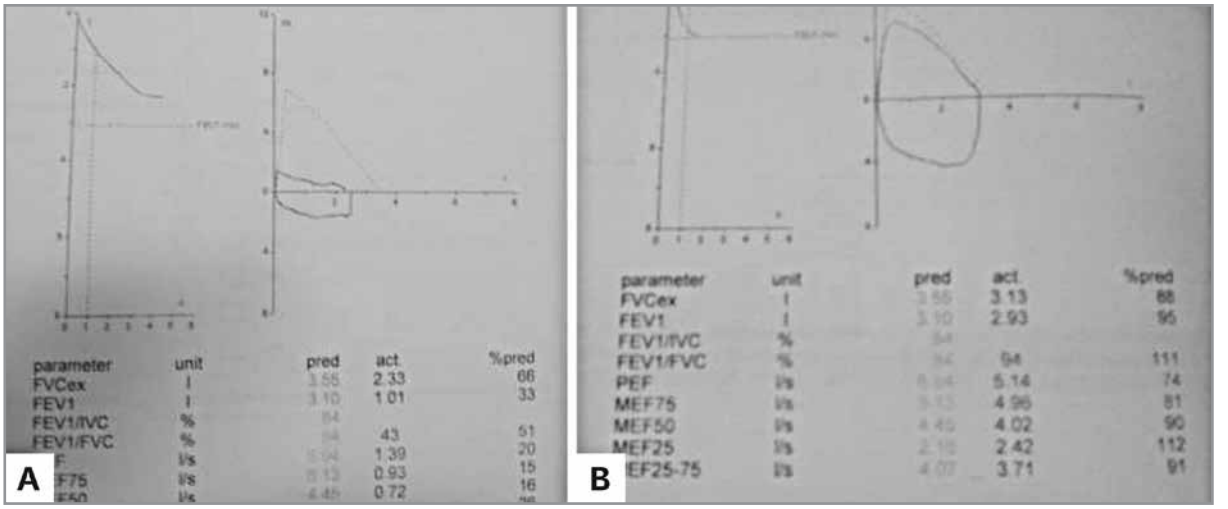

Figure 1. (A) Respiratory function test was consistent with fixed obstruction, **(B)** After debulking, the respiratory function test was normal.

Figure 2. (A,B,C) A polypoid lesion (red arrows) protruding from posterior wall to lumen and narrowing the air column was seen on chest X-Ray and computed tomography.

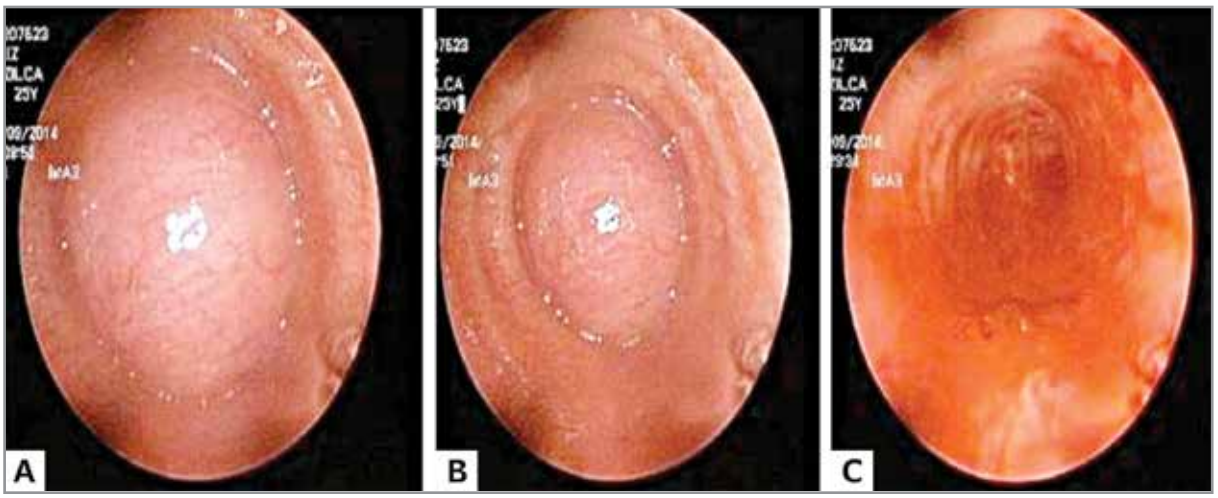

Figure 3. (A,B): Rigid bronchoscophic findings: a smooth surfaced polypoid lesion rich in submucosal vessels was located 5 cm distal to the vocal cords, **(C)** After debulking, lesion base, approximately 0.5 x 0.5 cm, was treated with cryotherapy.

with rigid forceps. Lesion base, approximately 0.5 x 0.5 cm, was treated with cryotherapy (Figure 3C). Immunohistochemically tumor cells were positively stained with actin and desmin (Figure 4); pathologic result was reported as leiomyoma. During abdominal ultrasonography, leiomyoma was not detected in uterus. Marked improvement observed in post operational respiratory function tests (Figure 1B). Control bronchoscopy on the 6th month was normal and biopsy taken from the area treated with cryotherapy did not show any residual or recurrence (Figure 5). No recurrence was seen in the chest roentgenogram and computed tomography at the first year control.

DISCUSSION

Symptomatic control in a patient with asthma is one of the ultimate goals. The choice of given medication and the doses are mainly based on the level of control. Despite proper treatment, some patients with asthma may still be symptomatic who are called as difficult-to-treat asthma. The patients with a difficult-to-treat asthma should be re-evaluated for an alternative diagnosis. There are many cases who have been diagnosed as asthma initially and received alternative diagnoses with further tests. In one of them, two cases of tracheal disease have been reported who has been misdiagnosed as difficult-to-treat asthma. One of them was suffering from

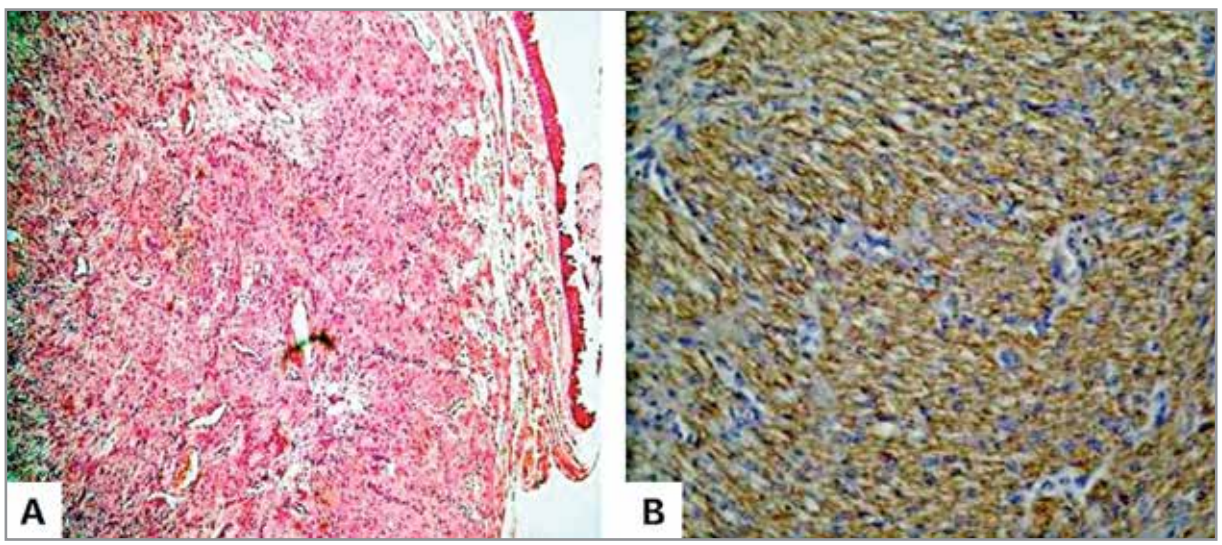

Figure 4. (A) Spindle-shaped cells organized in trakea H&E, **(B)** Immunohistochemical staining for smooth muscle α-actin was positive.

Figure 5. There was no residual lesion in control bronchoscopy on the 6th month.

obstructing extensive tracheal calcification and other was tracheomalacia (3). As easily noticed, the spectrum of the differential diagnoses is wide. Like destructive diseases of trachea, primary tumors may also mimic asthma with an obstruction of trachea.

Among the benign tumors of trachea; fibroma, fibromyxoma, fibrous histiocytoma, granular cell tumor, schwannoma, paraganglioma, neurofibroma, hemangiopericytoma, hamartoma can be listed. Leiomyoma is even rare within benign tumors constituting only 1% of all tracheal benign tumors (4). In the treatment of leiomyoma, aside from highly invasive surgical resection, Nd YAG laser, cryotheraphy, electrocautery and endoscopic resection can also be used (5).

Location of the lesion, size, and obstruction degree are important factors for the selection between treatment modalities. There are two types of leiomyoma, wide based sessile polyps and pedunculated polyps. Surgery is preferred for sessile polyps due to risks of incomplete resection and recurrence. Interventional therapy is successful in a pedunculated tracheobronchial leiomyoma (1,5-7). In literature, it is observed that mostly surgical resection is performed for treatment of tracheal leiomyoma (5). Along with that, endotracheal treatment methods are also used in recent studies.

As a result, tracheal tumors, although having a benign character, are presented with clinical deterioration due to obstruction they cause. In our case, a pedunculated polypoid lesion with near to complete obstruction was seen; regarding location of lesion, size and obstruction degree endobronchial resection was preferred; also cryotherapy was used on the lesion base. Thus, the complications of surgical excision were minimized.

REFERENCES

1. *Nakamura Y, Hata Y, Koezuka S, Makino T, Otsuka H, Sato F, et al. Tracheal leiomyoma resected with endobronchial electrocautery snare. J Bronchology Interv Pulmonol 2015;22:90-3.*
2. *Usui Y, Kimula Y. A case of endobronchial minute leiomyoma and literature review of the 66 cases of endotracheal and endobronchial leiomyoma reported in Japan. Nihon Kyobu Shikkan Gakkai Zasshi 1992;30:2158-62.*
3. *Alici IO, Kar Kurt O, Dursun AB, Yilmaz A, Erkekol FO. Two cases of tracheal disease misdiagnosed as difficult-to-treat asthma. Respir Care 2013;58:133-7.*
4. *Laksanabunsong P, Wongbunnate S, Charoenratanakul S. Leiomyomas of the lower respiratory tract: a case report. J Med Assoc Thai 1993;76:465-9.*
5. *Sugiyama M, Yoshino I, Shoji F, Hamatake M, Yohena T, Osoegawa A, et al. Endotracheal surgery for leiomyoma of the trachea. AnnThorac Cardiovasc Surg 2009;15:206-8.*
6. *Kaseda K, Anraku M, Goto T, Ohtsuka T, Kohno M, Izumi Y, et al. Successful surgical resection of leiomyoma obstructing the trachea. Gen Thorac Cardiovasc Surg 2013;61:476-8.*
7. *Kwon YS, Kim H, Koh WJ, Suh GY, Chung MP, Kwon OJ, et al. Clinical characteristics and efficacy of broncoscopic invention for tracheobronchial leiomyoma. Respirology 2008;13:908-12.*