

---

# Endobronchial hamartoma removed by flexible fiberoptic bronchoscopy via electrocautery

Selda KAYA<sup>1</sup>, Ayşegül KARALEZLİ<sup>1</sup>, Erkan BALKAN<sup>2</sup>, Ece ÇAKIROĞLU<sup>3</sup>, H. Canan HASANOĞLU<sup>1</sup>

<sup>1</sup> Ankara Atatürk Eğitim ve Araştırma Hastanesi, Göğüs Hastalıkları Kliniği,

<sup>2</sup> Ankara Atatürk Eğitim ve Araştırma Hastanesi, Göğüs Cerrahisi,

<sup>3</sup> Ankara Atatürk Eğitim ve Araştırma Hastanesi, Patoloji Kliniği, Ankara.

## ÖZET

*Fleksibl bronkoskopi ile elektrokoter yoluyla tedavi edilen endobronşiyal hamartom olgusu*

*Hamartom en sık görülen benign akciğer tümörüdür. Sıklıkla soliter nodül veya endobronşiyal lezyon olarak periferde parankimde görülür. Endobronşiyal formu hava yolu obstrüksiyonu, atelektazi ve tekrarlayan pnömoniye neden olur. Endobronşiyal hamartomlar cerrahi rezeksiyonla veya bronkoskopik olarak çıkarılabilir. Biz cerrahi rezeksiyon gerekmeden bronkoskopik elektrokoterle tedavi ettiğimiz endobronşiyal hamartom olgusunu sunuyoruz.*

**Anahtar Kelimeler:** Hamartom, elektrokoter, bronkoskopi.

## SUMMARY

*Endobronchial hamartoma removed by flexible fiberoptic bronchoscopy via electrocautery*

Selda KAYA<sup>1</sup>, Ayşegül KARALEZLİ<sup>1</sup>, Erkan BALKAN<sup>2</sup>, Ece ÇAKIROĞLU<sup>3</sup>, H. Canan HASANOĞLU<sup>1</sup>

<sup>1</sup> Department of Pulmonary Medicine, Ankara Atatürk Training and Research Hospital, Ankara, Turkey,

<sup>2</sup> Department of Thoracic Surgery, Ankara Atatürk Training and Research Hospital, Ankara, Turkey,

<sup>3</sup> Department of Pathology, Ankara Atatürk Training and Research Hospital, Ankara, Turkey.

---

## Yazışma Adresi (Address for Correspondence):

Dr. Selda KAYA, Ankara Atatürk Eğitim ve Araştırma Hastanesi, Göğüs Hastalıkları Kliniği,  
Bilkent, ANKARA - TÜRKİYE

e-mail: seldakaya@turk.net

*Hamartomas are the most common benign tumors of the lung. It is most common periferally in the parenchyma as solitary nodule or endobronchial lesion. Endobronchial form may cause obstruction of airway, atelectasis and recurrent pneumonia. Endobronchial hamartomas may be treated by surgical intervention or bronchoscopic excision (with rigid or flexible procedures). We are presenting a case of endobronchial hamartoma succesfully treated with bronchoscopic electrocautery without a need for surgical removal.*

**Key Words:** *Hamartoma, electrocautery, flexible fiberoptic bronchoscopy.*

Hamartomas of the lungs are benign mesenchymatous cartilage containing tumors. There are two clinical type of hamartomas as location of lesions: intraparenchymal or intrabronchial. Parenchymal hamartomas are usually asymptomatic and present radiologically as a coin lesion. Symptoms of intrabronchial form arise from obstruction of tracheobronchial lumen (1-4). We are presenting a case of endobronchial hamartoma succesfully treated with bronchoscopic electrocautery without a need for surgical removal.

#### CASE REPORT

A seventy-nine years old man was admitted to the hospital with the complaints of cough, progressive shortness of breath, and consciousness. He had a diagnosis of COPD for 20 years and had also recurrent episodes of pneumonia. He had a history of tuberculosis. On admission, the patient was dyspneic, and had a subfebrile fever, his blood pressure was measured as 150/90 mmHg. Physical examination of the chest revealed decreased ventilation of the right lower field and rhonchi throughout the lungs. He had clubbing that might be related with his recurrent episodes of pneumonia history. Blood gas analysis showed respiratory asidosis. He needed for 24 hour mechanical ventilation. Blood tests were revealed only leucocytosis (predominantly blood neutrophilia). The chest X-ray showed an atelectasis of the right lower lobe, bilateral pleural effusion and cardiomegaly (Figure 1). Left ventricular hypertrophy, a mild aortic valve stenosis and pulmonary hypertension (75 mmHg) was reported in his echocardiography. Pleural thoracentesis revealed a transudative effusion. Computerized tomography of the chest showed bilateral pleural effusion (massive in the right hemithorax), atelectasis of the right lower lobe, endobronchial lesion in the middle lobe (Figure 2).



Figure 1. Chest X-ray: Atelectasis of the right lower lobe, bilateral pleural effusion and cardiomegaly.

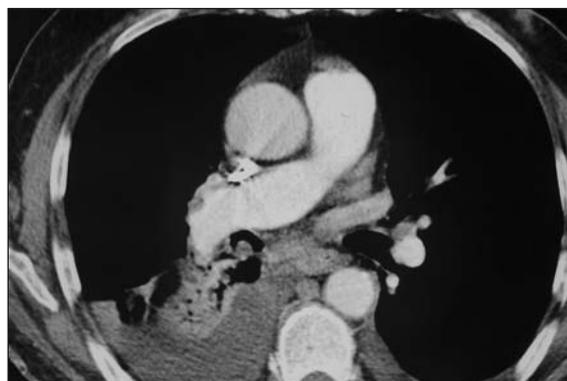


Figure 2. The view of thorax CT: Bilateral pleural effusion (massive in the right hemithorax), atelectasis of the right lower lobe, endobronchial lesion in the middle lobe.

Flexible bronchoscopy under local anaesthesia revealed a yellowish, smooth shining surface with a wide sessile base polypoid lesion which was partially occluding the bronchus intermedius (Figure 3). We considered macroscopically endobronchial hamartoma. We removed it by flexible bronchoscopic basket type forceps via electrocautery. Microscopic examination of the



Figure 3. The view of FOB: A yellowish, smooth shining surface with a wide sessile base polypoid lesion which was partially occluding the bronchus intermedius.

endobronchial lesion revealed a benign, nonchondromatous, mesenchymal proliferation predominantly scattered epithelial lined and myxomatous fibrous connective tissue. Histologic examination of the tumor was reported "Hamartomatous polyp" (Figure 4). After the procedure, our patient had not any problem, at the discharge the chest X-ray did not show any pathology.

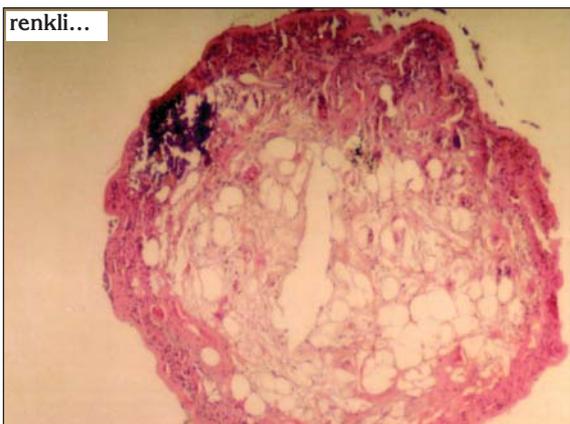


Figure 4. The view of pathologic examination: Benign, nonchondromatous, mesenchymal proliferation predominantly scattered epithelial lined and myxomatous fibrous connective tissue.

## DISCUSSION

Endobronchial hamartoma is a benign lesion made up of elements of lung and bronchus, generally including cartilaginous, osseous, fatty and muscular tissue (2). Hamartomas occur as endobronchial lesion in 10 to 20% of cases, however the exact incidence is variable as other series report in only 1.4% of cases (1,2). Symptoms of endobronchial hamartoma arise from obstruction of the tracheobronchial lumen, e.g fever, hemoptysis, cough, purulent expectoration, wheezing, pleural pain and respiratory distress (3). Atelectasis and recurrent pneumonitis may be frequently seen clinical presentations. The diagnosis of endobronchial hamartoma is easily accomplished by bronchoscopy with endobronchial biopsy. It is well circumscribed, yellowish, presenting a smooth shining surface with a wide sessile base (4-8). Histologic examination may reveal epithelial, connective, fatty, muscular, osseous and cartilaginous tissue elements, with cartilage often constituting the greater part of lesion (3,8).

The traditional treatment of endobronchial hamartoma is thoracotomy with bronchotomy, lobectomy or lung resection (3,8). There may be successfully treated cases exclusively using rigid or flexible bronchoscopic techniques (Nd yaser photocoagulation, or electrocautery, cryotherapy and photodynamic therapy) thus sparing surgical intervention (1,4,8). Cheu et al. believe if the lesion is not accessible during bronchoscopy, there would be indicated transpleural bronchotomy as the treatment of choice for endobronchial hamartoma, only in cases in which prolonged bronchial obstruction has produced irreversible lung destruction should the hamartoma be treated with lung resection (5). Our patient had not any lung resection and endobronchial hamartoma was accessible during bronchoscopy. Several reports show successfully removal by flexible or rigid bronchoscopy. We used both of them. Because there have been seen almost recurrency in EHS. On the other hand the other invazive procedure could not be tolerated by our patient. Bronchoscopic electrocautery is an inexpensive and simple technique. Its common application in general surgery and gastroenterology. Despite the favorable characteristics, experience with electroca-

utery in tracheobronchial tree is limited. The extent of effect of electrocautery stil unknown and there could be a possible hazard of bronchial wall perforation. Complications of this procedure are hemoptysis, perforation and burn on the tracheal wall (6). Although the other bronchoscopic procedures can effect much deeper tissue, such as Nd Yag laser, electrocautery can be used more safely for the treatment of these endobronchial lesions. We are thinking that this procedure could be use in the treatment of an endobronchial lesion, if polypoid lesion is in the bronchial tree and accessible. The management of EHs must be individualized according to the characteristics of each patient and each hamartoma (2). In the follow-up period of the patient, he wasn't any additional problem and his clinical performance status was good. Our experience, endoscopic treatment with bronchoscopic electrocautery is a good therapeutic choice for symptomatic and selected patients.

## REFERENCES

1. Altay Şahin A, Aydınler A, Kalyoncu F. Endobronchial hamartoma removed by rigid bronchoscope. *Eur Respir J* 1989; 2: 479-80.
2. Cosio GB, Villera V, Escave-Sustaeta J. Endobronchial hamartoma. *Chest* 2002; 122: 202-5.
3. Borro JM, Moya J, Botella A. Endobronchial hamartoma, report of seven cases. *Scand J Thor Cardiovasc Surg* 1989; 23: 285-7.
4. Claudia A. Stey, Peter Vogt, Erich W. Russi. Endobronchial lipomatous hamartoma, a rare case of bronchial occlusion. *Chest* 1998; 113: 254-5.
5. Cheu Maj HW, Grishkin Col B. A, Endobronchial hamartoma treated by bronchoscopic excision. *Southern Medical Journal* 1993; 86 (10): 1164-5.
6. Ton JM, Van Boxem, Westerga J. Tissue effects of Bronchoscopic electrocautery, bronchoscopic apperance and histologic changes of bronchial wall after electrocautery. *Chest* 2000; 117: 887-91.
7. Verkindre C, Brichet A, Maurage CA. Morphological changes induced by extensive endobronchial electrocautery. *Eur Respir J* 1999; 14: 796-9.
8. Inmaculada A, Perez-Ronchel J, Reyes N. Endobronchial hamartoma diagnosed by fleksible bronchoscopy. *Journal of Bronchology* 2002; 9: 212-5.