



ELSEVIER

respiratory MEDICINE  
CME

CASE REPORT

# Multiple endobronchial lipomas which were treated by bronchoscopical resection

Sibel Yurt\*, Levent Karasulu, Filiz Kosar, Sedat Altın, Nur Urer

*Yedikule Chest Disease and Chest Surgery Education and Research Hospital, Karadeniz Cd. No:17 Dr:8 Kocasinan Bahcelievler, 34192 Istanbul, Turkey*

Received 13 October 2007; accepted 19 October 2007

## KEYWORDS

Endobronchial lipomas;  
Bronchoscopy;  
Benign tumors

## Summary

Bronchial benign tumors are very rare; however, endobronchial lipomas are responsible for 0.1–0.5% of all lung tumors (1,2). Clinical symptoms depend on the severity of bronchial obstruction and the effects on parenchyma. It is more common in men and more frequently observed in the right bronchial system (3). We present a 76-year-old woman with two separate endobronchial lipomas in the upper lobe and intermediary bronchi, who applied with cough and sputum. The patient was successfully treated with electrocautery snare technique. After this procedure, thorax CT showed bronchiectasis of right lower zone. Thoracotomy was not taken into consideration. After 2-year follow-up the patient has no complaint.

© 2008 Published by Elsevier Ltd.

## Introduction

Bronchial benign tumors are very rare; however, endobronchial lipomas are responsible for 0.1–0.5% of all lung tumors.<sup>1,2</sup> Due to obstruction of bronchi, they can lead to parenchyma damage and pneumonia. Bronchoscopic methods may be used for diagnostic and therapeutic purposes.<sup>3–5</sup>

## Case report

A 76-year-old woman applied with cough and expectoration to our hospital, her blood pressure arterial was 160/100, pulse 92/min, respiration rate 18/min. Respiratory system auscultation revealed decreased respiration sounds in the right hemithorax and coarse crackles at the beginning of the inspirium, as well as rhonchi was heard rarely in both hemithorax. Hemogram results revealed the following: leucocytes: 15500/mm<sup>3</sup>, Hgb: 13 g/dl, Hct: 37.9%, blood gas examination revealed pH: 7.44, pCO<sub>2</sub>: 46.2 mmHg, pO<sub>2</sub>: 70 mmHg, O<sub>2</sub> saturation was 94.3%. Volume decrease in the right lung, and compensatory hyperinflation in the left lung was observed in the chest rontgenogram. Obliteration in the right main bronchi and volume decrease in the right

\*Corresponding author. Tel.: +90 212 503 26 95;  
fax: +90 212 547 22 33.

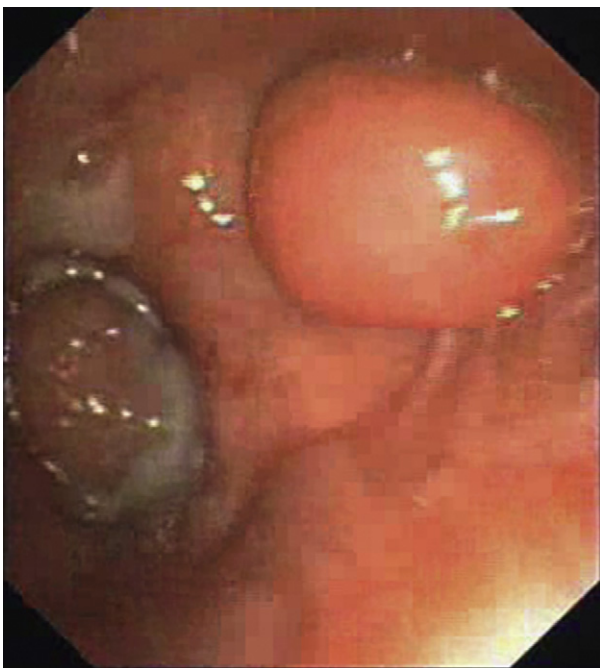
E-mail address: yurtsibel@hotmail.com (S. Yurt).

lung, and mediastinal shift in the right hemithorax was observed in the thorax CT. Bronchoscopy revealed two separate mass lesions obstructing the right upper lobe and intermediary bronchi (Picture 1). Pathological examination of biopsies showed concordance with lipoma.

Rigid bronchoscopy was applied to the patient; the lesion was excised using the electrocautery snare technique. Electrocauterization was performed on the remaining lesions. Approximately 3 weeks later, bronchoscopy was carried out on the patient and the upper lobe and intermediary bronchi as well as the middle and lower lobe was found totally free (Picture 2). Thorax CT showed bronchiectasis of right lower zone. After these procedures and antibiotic therapy, the complaints of the patient improved. Due to biomass exposure, our patient showed clinical complaints consistent with COPD and could not perform respiratory function test appropriately. As far as she could manage, FEV<sub>1</sub> was measured less than 1 l. Considering patient's age and functional status and her clinical complaints improved, thoracotomy was not taken into consideration. After 2-year follow-up the patient has no complaint.

## Discussion

Tumors of the trachea-bronchial system are usually of malign character. Benign endobronchial tumors are rare.<sup>6</sup> Endobronchial lipomas grow out of fat cells located peribronchial and sometimes in the submucosal tissues of the bronchi and are responsible for 13% of all benign lung tumors.<sup>7</sup> Smoking and obesity may be risk factors.<sup>8</sup> Bronchial lipomas are histological of benign character; however, Simmers et al.<sup>9</sup> indicated that recurrent obstructive pneumonia may cause cell abnormalities which may be



**Picture 1** Bronchoscopy revealed two separate well-circumscribed mass lesions obstructing the right upper lobe and intermediary bronchi.



**Picture 2** Bronchoscopy showed that upper lobe and intermediary bronchi are totally open.

considered as malignancy in cytological examination. Surgical resection is often applied if one can not be sure whether the lesion is benign or not. So far, most of the diagnosed endobronchial lipoma cases were male and located in the right bronchial system.<sup>3,5</sup> Yet, there is no case with two endobronchial lipomas at the same time reported in the literature. Our case was a 76-year-old woman and the lipomas were located in the upper lobe and intermediary bronchi in right bronchial system.

Clinical symptoms depend on the localization of lesions and the severity of obstruction, cough, hemoptysis, shortness of breath, and fever may occur. Radiological findings due to atelectasis and pneumonia may be observed. Post-obstructive atelectasis and recurrent infections may lead to permanent damage of lung tissue.<sup>3-5</sup>

In bronchial lipomas, surgical resection is recommended for the following cases: 1—uncertainty in diagnosis or probability of malignity, 2—periferic destructive lung disease due to long-term atelectasy pneumonia, 3—extrabronchial growth or subpleural lipomateuse disease, 4—possibility of technical difficulties during the bronchoscopy process due to multidimensional growth of the tumor.<sup>3</sup> In this patient, after excision of endobronchial lipomas, complaints and symptoms of the patient due to infected bronchiectasis were treated with appropriate antibiotics. Since the complaints improved and the patient was functionally not operable, surgical resection was not taken into consideration.

Nd-YAG laser therapy with bronchoscopy can be the choice. We had no Nd-YAG laser equipment. Also Nomori et al.<sup>10</sup> suggest that bronchoscopic snaring is superior to laser vaporization in several different ways.

In conclusion, endobronchial lipomas are rare benign tumors and endoscopic methods should be the first treatment alternative.

## Conflict of interest statement

None of the authors have a conflict of interest to declare in relation to this work.

## Appendix A. Supplementary materials

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.rmedc.2007.10.012](https://doi.org/10.1016/j.rmedc.2007.10.012)

## References

1. Jensen MS, Petersen AH. Bronchial lipoma. *Scand Thorac Cardiovasc Surg* 1970;**4**:131–4.
2. Schraufnagel DE, Morin JE, Wang NS. Endobronchial lipoma. *Chest* 1979;**75**:97–9.
3. Muraoka M, Oka T, Akamine S, Nagayasu T, Iseki M, Suyama N, et al. Endobronchial lipoma: review of 64 cases reported in Japan. *Chest* 2003;**123**:293–6.
4. Adachi S, Takada Y, Watanabe H, et al. Endoscopic surgery for bronchial benign tumor. *J Jpn Soc Bronchol* 1984;**6**:134.
5. Kruger S, Stanzel F, Morresi-Hauf A, Haussinger K. Endobronchial lipoma: successful therapy by bronchoscopic laser resection vs. surgery. *Pneumologie* 2004;**58**:769–72.
6. Shah H, Garbe L, Nussbaum E, Dumon JF, Chiodera PL, Cavaliere S. Benign tumors of the tracheobronchial tree. Endoscopic characteristics and role of laser resection. *Chest* 1995;**107**:1744–51.
7. Stey CA, Vogt P, Russi EW. Endobronchial lipomatous hamartoma: a rare cause of bronchial occlusion. *Chest* 1998;**113**:254–5.
8. Farsad GR, Makoui C. Endobronchial lipoma. *Am Surg* 1981;**47**:236–8.
9. Simmers TA, Jie C, Sie B. Endobronchial lipoma posing as carcinoma. *Neth J Med* 1997;**51**:143–5.
10. Nomori H, Horio H, Suemasu K. Two-stage operation for endobronchial for endobronchial lipoma and lung cancer using bronchoscopy and thoracoscopy in an elderly patients with chronic obstructive pulmonary disease. *Jpn J Thorac Cardiovasc Surg* 1999;**47**:567–9.