



## CASE REPORT

### Management of Obstructive Bronchial Fibrolipoma Bronchoscopically

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#### Abstract

Lipomas are unusual tumors endobronchially and they make 0.1 - 0.5% of lung tumors. Diagnosis is often misleading due to these non-specific symptoms and the appearance of the mass on imaging studies. Biopsy is the key feature for the diagnosis. The treatment for endobronchial lipoma is surgical or endoscopic resection. Early treatment may prevent distal lung damage. A patient with a mass lesion as a coincidental finding after chest trauma diagnosed as endobronchial fibrolipomatosis. Endobronchial treatment of this rare tumor and follow up is presented with review of literature.

#### Keywords

Bronchial fibrolipoma, Endobronchial resection, Rigid bronchoscope

and pulse oximetric saturation was 98% on room air. A contrast enhanced chest CT showed a consolidation in the left lower lobe. There was no evidence of any enlarged mediastinal lymph nodes or pleural effusion. Fiberoptic bronchoscopy, revealed a well-defined polypoid smooth-surfaced mass totally obstructing the left lower lobe bronchus entrance. Histopathological examination of the biopsies taken by fiberoptic bronchoscope showed only chronic inflammatory changes and squamous metaplasia but did not allow a diagnosis. At the PET-CT scan low-medium FDG was detected at the left lower lobe posterobasal segment at a 6 × 5.4 cm localization (atelectasic area) (suvmax: 3.2). For obtaining a bigger biopsy rigid bronchoscopy was done and a polypoid pink mass lesion which has a lobulated contour located at the entrance of the left basal segment entrance was taken out by core out technique and its base was seen to be originated from lateral wall (Figure 1b) Cryotherapy was applied and procedure was ended with bronchial cleaning (Figure 1c). IV moxifloxacin were prescribed for one week for the atelectasia and postobstructive pneumonia that was developed secondary to polypoid lesion. Biopsy resulted as fibrolipomatous polypoid mass with the surface made from respiratory epithelium. In the follow up full regression observed by chest X-ray at the infiltration area located at the left lower lobe and bronchoscopy of the patient done at the 1<sup>st</sup> month, cryoterapi was applied again to the base of the lesion (Figure 1d). 5 year follow-up, the patient remained asymptomatic, with good clinical and radiological evaluations (Figure 1e).

#### Introduction

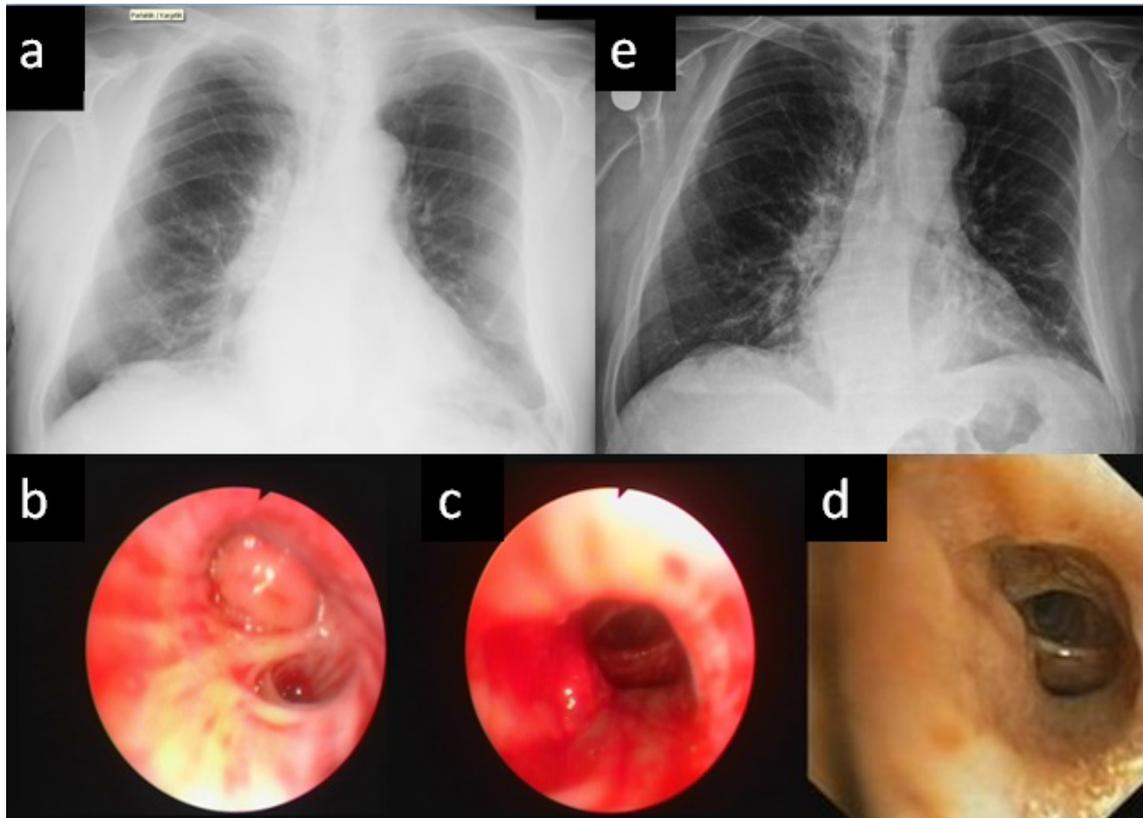
Less than 5% of lung tumors are benign with lipomas only making up to 0.1 - 0.5% of all benign lung tumors [1-3]. The main problems with benign tumors are the complications associated with bronchial obstruction. Atelectasis, pleural effusion, loss of lung volume, and the symptoms as hemoptysis, cough, and dyspnea could make the clinical picture [4]. A patient with a mass lesion as a coincidental finding after chest trauma diagnosed as endobronchial fibrolipomatosis was presented with review of literature.

#### Case Report

A 72-year-old male presented with a mass detected coincidentally at the postero-anterior chest X-ray taken after a chest trauma (Figure 1a). The patient had no outstanding medical history except 10 pocket/year smoking history which he abounded 25 years ago. On physical examination, no pathology was detected

#### Discussion

Lipomas are the most common benign mesenchymal tumors that usually arise in soft tissues. Lipomas are



**Figure 1:** A) Postero-anterior chest X-ray showing a mass located at the left lower lung; B) Endoscopic images showing a well defined, smooth surfaced polypoid mass obstructing the left lower bronchus; C) Base of the lesion; D) Control bronchoscopy of the patient shows no residue of the tumor; E) Control postero-anterior chest X-ray.

unusual tumors endobronchially. They make 0.1% of all lung tumors [3] Clinical symptoms of an endobronchial lipoma depend on the location, the amount of obstruction, and the functional and anatomical effects on the lung distal to the obstruction. Patients can be asymptomatic or presented with shortness of breath, cough, pneumonia and hemoptysis. Diagnosis is often misleading due to these non-specific symptoms and the appearance of the mass on imaging studies. Appearance can be confused with other diseases like as malign cancers.

Radiologic examination often helps to characterize endobronchial lesions and limit the list of differential diagnoses, and also provides important information for prebronchoscopic and presurgical planning. Chest radiography is of limited value with its low sensitivity (66%) while multidetector CT scanning is the imaging modality of choice for detection and staging of central airway neoplasms [5].

Biopsy is the key feature for the diagnosis of these tumor. Diagnosis can be hard by biopsies taken through fiberoptic bronchoscopy because larger samples are needed because the existence of a fibrous sheath around the tumor may prevent adequate tissue sampling [6]. Also endobronchial lipoma is usually covered with normal respiratory mucosa or with foci of squamous metaplasia, and the tumor itself may be hard to grasp with biopsy forcep [7,8].

The treatment for endobronchial lipoma is surgical or endoscopic resection. Early resection of benign endobronchial tumors may prevent distal lung damage. The method of resection depends on the tumor size, location and degree of lung damage. Bronchoscopic resection should be tried in these benign neoplasm first if appropriate because it can achieve complete cure with lower morbidity compared to surgery [9]. Also it is believed that lipomas can be safely removed bronchoscopically. Bronchoscopic evaluation of the tumors mobility is important. If the tumor has extraluminal extension, tumor is not strictly endoluminal tumor with limited extent into the airways wall, or the tumor dignity is uncertain, or the location or size not appropriate then the endoscopic procedures are not be enough. In such cases, a surgical approach may be the therapy of choice. Although recurrence of benign endobronchial tumors is extremely rare after complete surgical resection, the rate of recurrence after endobronchial resection is less well described. Because most of these tumors grow into or through the tracheal wall, complete endobronchial resection is often difficult to achieve, and some patients may need repeated endobronchial interventions [10]. The need for routine bronchoscopic surveillance after endoscopic treatment of these tumors is debatable. Airway CT scan offer a less invasive surveillance approach but it has a risk of radiation exposure.

The management of endobronchial lipoma should

be individualized according to the characteristics of each patient, tumor anatomic factors and condition of the affected lung and bronchoscopic approach should be the first line therapy in these patients after thorough evaluation.

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