



A Bronchial Lipoma: Occurrence at an Unusual Site and Its Successful Bronchoscopic Resection with an Electrosurgical Snare

Sanjeev Jadhav, M.Ch.¹, Sachin Sanagar, M.Ch.¹, Jeenam Shaha, M.D.², Jayalakshmi Kutty, M.D.²,
Mona Jadhav, M.D.³

Departments of ¹Cardiovascular and Thoracic Surgery and ²Pulmonary Medicine, Apollo Hospitals, Navi Mumbai; ³Department of Anesthesia, Symbiosis Institute of Health Sciences, Pune, India

ARTICLE INFO

Received January 7, 2020

Revised March 28, 2020

Accepted April 22, 2020

Corresponding author

Sanjeev Jadhav

Tel 91-8830139525

Fax 91-2227533080

E-mail Drsanjeev_s@apollohospitals.com; Sachin.sanagar@gmail.com

ORCID

https://orcid.org/0000-0001-9911-5569

Primary tracheobronchial lipoma is an extremely rare entity, the diagnosis of which is often missed initially. Cases are generally diagnosed late after initial treatment for asthma and bronchitis. We report a case of a 42-year-old man with a left main bronchus lipoma that caused near-total obstruction. The lipoma was treated by bronchoscopic resection with an electrosurgical snare and cryoablation.

Keywords: Bronchus, Lipoma, Cough

Case report

Benign tracheobronchial neoplasms are rare entities; for instance, lipoma accounts for only 0.1% of lung tumors [1]. Diagnosis is often delayed as the symptoms frequently mimic asthma or bronchitis. Nonetheless, early diagnosis and treatment are necessary to avoid irreversible changes in the lung parenchyma requiring lobectomy or pneumonectomy.

A 42-year-old man presented with a history of persistent dry cough for 3 months and brownish expectoration of recent onset. His symptoms progressed despite initial medical management for bronchitis. Due to his persistent symptoms he was advised to undergo multislice thoracic computed tomography (CT), which revealed a well-circumscribed endobronchial soft-tissue mass measuring 2.4×1.5×1.8 cm with homogenous attenuation that had predominantly fat density and calcified specks. The mass was located in the left main bronchus, extending into the lower lobe bronchus and causing distal collapse and consolidation (Fig. 1). The patient presented to Apollo Hospital, Navi Mumbai, India, for further management. His

clinical examination was unremarkable except for reduced air entry at the left basal area on auscultation. He underwent a contrast-enhanced fluorodeoxyglucose (18F-FDG) whole-body positron emission tomography scan, which revealed no FDG uptake in the endobronchial mass. There were no significant lung nodules, mediastinal adenopathy, or FDG uptake elsewhere in the body.

Endobronchial tumor resection with an electrosurgical snare and ablation of the remnant mass was done under general anesthesia using jet ventilation with the help of rigid and flexible bronchoscopy. Intraoperative bronchoscopy revealed a lobulated mass in the left bronchus, causing its near total obstruction (Fig. 2). Intraoperative frozen section biopsy revealed that the mass was benign. Complete resection was done with a combination of electrocautery snaring and cryotherapy (Fig. 3). Histopathological sections showed that the tumour was located in the submucosa and was composed of lobules of benign adipocytes with intervening fibrocollagenous stroma, suggestive of lipoma. There was no evidence of granuloma, atypia, or malignancy. The patient's postoperative course was uneventful and he was discharged on the third postoperative day. At a





Fig. 1. Computed tomography scan showing lipoma in the left main bronchus (arrow).

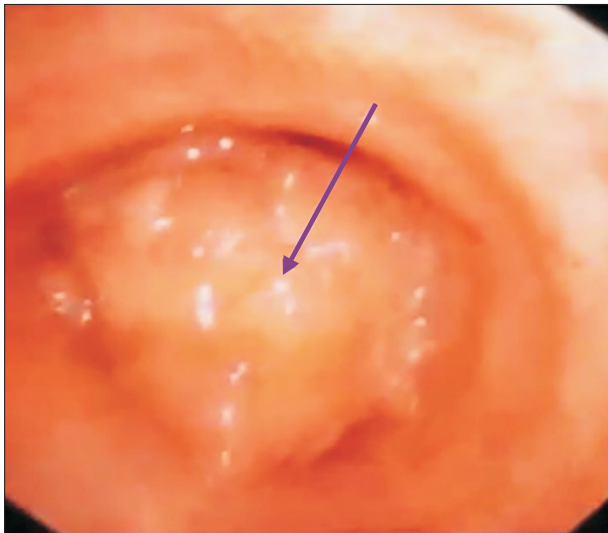


Fig. 2. Left bronchial lipoma causing near-total obstruction (arrow).

6-month follow-up, he was asymptomatic.

The patient provided written informed consent for publication of clinical details and images.

Discussion

Endobronchial lipoma is a rare benign neoplasm typically seen in middle-aged men, with a strong male predominance, as shown by a male-to-female ratio of 45:7 [2]. Patients with endobronchial lipoma usually present with chronic cough and shortness of breath. These tumors arise from the submucosal layer of bronchus. Hemoptysis is rare,

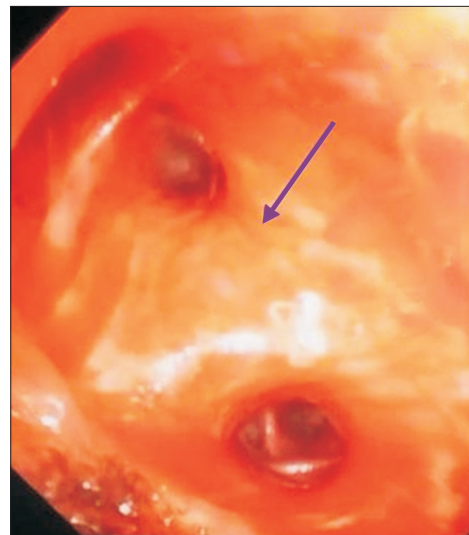


Fig. 3. Clear left bronchus after resection of the lipoma (arrow).

as these tumours are relatively avascular [3]. Patients usually are misdiagnosed as having asthma or bronchitis and receive treatment for those conditions. On CT, the fat density of the endobronchial tumor, which indicates that it is composed of adipose tissue, is usually diagnostic of lipoma [4]. A multidisciplinary approach is crucial for successful management. Bronchoscopic resection is the treatment of choice. In our patient, irreversible postobstructive changes in the lung parenchyma occurred. However, lung resection must be performed if there are irreversible changes in the parenchyma, such as fibrosis, bronchiectasis, or lung abscess [5,6]. A review article of bronchial lipoma cases in Japan stated that bronchoscopic resection was carried out in 17 out of 64 cases [7]. A retrospective multicentric study demonstrated that interventional bronchoscopic techniques were effective for the treatment of endobronchial lipoma in the absence of severe distal bronchiectasis [8]. Long-term follow-up is essential to monitor for recurrence.

In conclusion, endobronchial lipoma should be considered in the differential diagnosis of chronic pulmonary diseases. Early diagnosis and treatment can prevent progression to irreversible changes in the postobstructive lung parenchyma, thereby avoiding the need for lung resection. Bronchoscopic intervention is the preferred treatment.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

Acknowledgments

We would like to acknowledge Dr. Rochana Bakshi, Dr. Haridas Munde, Dr. Saurabh Tiwari (anesthetists) for intraoperative anesthesia, Dr. Gunadar Padhi (an intensivist) for postoperative care, and Dr. Asawari Ambekar for conducting the histopathological examination in this case.

ORCID

Sanjeev Jadhav: <https://orcid.org/0000-0001-9911-5569>

Sachin Sanagar: <https://orcid.org/0000-0001-8438-1135>

Jeenam Shaha: <https://orcid.org/0000-0002-6010-056X>

Jayalakshmi Kutty: <https://orcid.org/0000-0002-7887-2605>

Mona Jadhav: <https://orcid.org/0000-0002-3016-0481>

References

1. Wang H, Du Z, Li A, Song J. *Surgical treatment of an endobronchial lipoma obstructing the right upper bronchus: imaging features with pathological correlation.* Pak J Med Sci 2013;29:1447-9.
2. MacArthur CG, Cheung DL, Spiro SG. *Endobronchial lipoma: a review with four cases.* Br J Dis Chest 1977;71:93-100.
3. Irani F, Kumar B, Reddy P, Narwal-Chadha R, Kasmani R, Tita J. *An endobronchial lipoma mimicking asthma and malignancy.* Prim Care Respir J 2010;19:281-3.
4. On R, Kushima H, Ishii H, Watanabe K. *Endobronchial lipoma: the diagnostic benefit of computed tomography findings.* Intern Med 2018;57:285-6.
5. Trivino A, Mora-Cabezas M, Vallejo-Benitez A, Garcia-Escudero A, Gonzalez-Campora R. *Endobronchial lipoma: a rare cause of bronchial occlusion.* Arch Bronconeumol 2013;49:494-6.
6. Park CB. *Endobronchial lipoma diagnosed by chest CT: a case report.* Korean J Thorac Cardiovasc Surg 2003;36:39-42.
7. Muraoka M, Oka T, Akamine S, et al. *Endobronchial lipoma: review of 64 cases reported in Japan.* Chest 2003;123:293-6.
8. Nassiri AH, Dutau H, Breen D, et al. *A multicenter retrospective study investigating the role of interventional bronchoscopic techniques in the management of endobronchial lipomas.* Respiration 2008;75:79-84.