Alexandria Journal of Medicine (2015) 51, 175–177

HOSTED BY

Alexandria University Faculty of Medicine

Alexandria Journal of Medicine

http://www.elsevier.com/locate/ajme

CASE REPORT

An infrequent cause of total lung collapse: Endobronchial lipoma

Fahd Ahmed Suhail [a,*], Mohamed Mahmoud El Shafei [a], Basma Mohamed El.Sabaa [b], Adel Mohamed Risk [a], Shadya Halmy Abou Safe [a]

[a] Department of Radiology (Division of Chest Imaging), Alex. University Medical Centre, Egypt
[b] Department of Pathology, Alex. University, Egypt

Received 8 February 2014; accepted 7 May 2014
Available online 21 June 2014

KEYWORDS

Endobronchial lipoma;
Radiology;
Total lung collapse

Abstract Endobronchial lipomas are rare benign tumors of the lung. The reported case was a 46-year-old man who came to our center for follow up of endobronchial lesion and contracted it 5 years ago. A fibrobronchoscopy failed to reach the lesion due to narrowing in the upper respiratory tract and the percutaneous sampling (CT-guided FNA) was taken. Histopathological investigation revealed that the tumor was an endobronchial lipoma; the tumor composed of mature fat tissue and was covered with bronchial epithelium.

1. Introduction

Benign tumors of airway are much less common and need to be differentiated from malignant airway lesions, but many neoplasms are clinically and radiographically indistinguishable from malignant lesions.[1] Among benign lesions, endobronchial lipomas are rare tumors of the lung found in the tracheo-bronchial tract, accounting for only 0.1–0.4% of all bronchial tumors.[2,3] As known, lipomas are composed exclusively of mature fat. CT examination is highly specific and sensitive for the detection and identification of adipose density within the lesion which convincingly narrows the differential diagnosis (Homogenous fat attenuation on CT strongly suggests lipoma).[1] The tumor is a slow-growing benign neoplasm, but chronic lung damage is often detected as a result of progressive bronchial obliteration.[2–4] Endobronchial lipomas are often treated by bronchoscopic resection for preventing lung damage.[4,5]

2. Case report

A 46-year-old man came to the center for follow up of endobronchial lesion and contracted it 5 years ago. No history of fever, shortness of breath, weight loss, or other associated symptoms was present at admission. Physical examination revealed no air entry in the left hemithorax on auscultation. A thoracic computed tomography (CT) showed a lobulated hypodense mass, which was totally obstructing the left main bronchus path, branching into the upper and lower left lobar bronchi, measuring 5 × 3 cm and total lung collapse was found in the left lung associated with ipsilateral mediastinal shift on

* Corresponding author. Tel.: +20 1009288109.
E-mail addresses: fasaahmed@gmail.com (F.A. Suhail), mohamedeshafei@yahoo.com (M.M. El Shafei), Basma_El.Sabaa@yahoo.com (B.M. El.Sabaa), adelmrizkk@yahoo.com (A.M. Risk), hadia_abouseif@yahoo.com (S.H.A. Safe).

Peer review under responsibility of Alexandria University Faculty of Medicine.

http://dx.doi.org/10.1016/j.ajme.2014.05.003

radiological examination with chest computed tomography (CT) scan. Region of interest CT tool was used to assess the very low-density nature of the lesion, suggesting the diagnosis of a lipomatous endobronchial neoplasm. A fibrobronchoscopy failed to reach the lesion due to narrowing in the upper respiratory tract and the percutaneous sampling (CT-guided FNA) was taken. Histopathologically, the tumor composed of mature fat tissue and was covered with bronchial epithelium. Pathological microscopic examination revealed that the tumor was an endobronchial lipoma (see Fig. 1).

3. Discussion

Endobronchial lipoma is a rare benign tumor originating from the adipose tissue, with incidence ranging from only 0.1% to 0.5% in all lung tumors.[1–7] The tumors are commonly found in the central airways, in lobar or segmental bronchi of the endobronchial tree, mainly located in the right lung, and are easily detected during bronchoscopy, with only small percentage being located in the periphery of the lung.[2–5] In the macroscopic investigation, all the lesions are seen as well circumscribed, soft, yellow masses ranging in size from 1 to 3 cm in the greatest diameter, with a smooth round surface.[2,3,8]

Tumors are found most commonly in middle aged men. Symptoms reported include cough, sputum, hemoptysis, fever, dyspnea and recurrent pneumonia.[2,3]

A study stated that slow tumoral growth was the reason for late manifestation of the symptoms ranging from a few months to several years before diagnosis. The present case had clinical manifestations since 5 years. Another study reported that a large number of patients have abnormal chest radiographic findings, but most of the abnormal radiographic findings do not include a direct shadow of the tumor, and almost half of the shadows found are judged to be instances of consolidation or infiltration due to atelectasis and pneumonia of the distal lung.[2–5,8]

In the presented case, the patient had a medical history of recurrent pneumonia over the previous several years. However, endobronchial lipoma is histologically benign in character. It has been reported that recurrent pneumonia attacks may induce sufficient nuclear atypia to suggest malignancy in endobronchial brush cytology of this tumor. In the current case, different from others being reported in the literature, the left main bronchus was obstructed by the tumor and total atelectasis was detected at the left lung.[1–5,8]

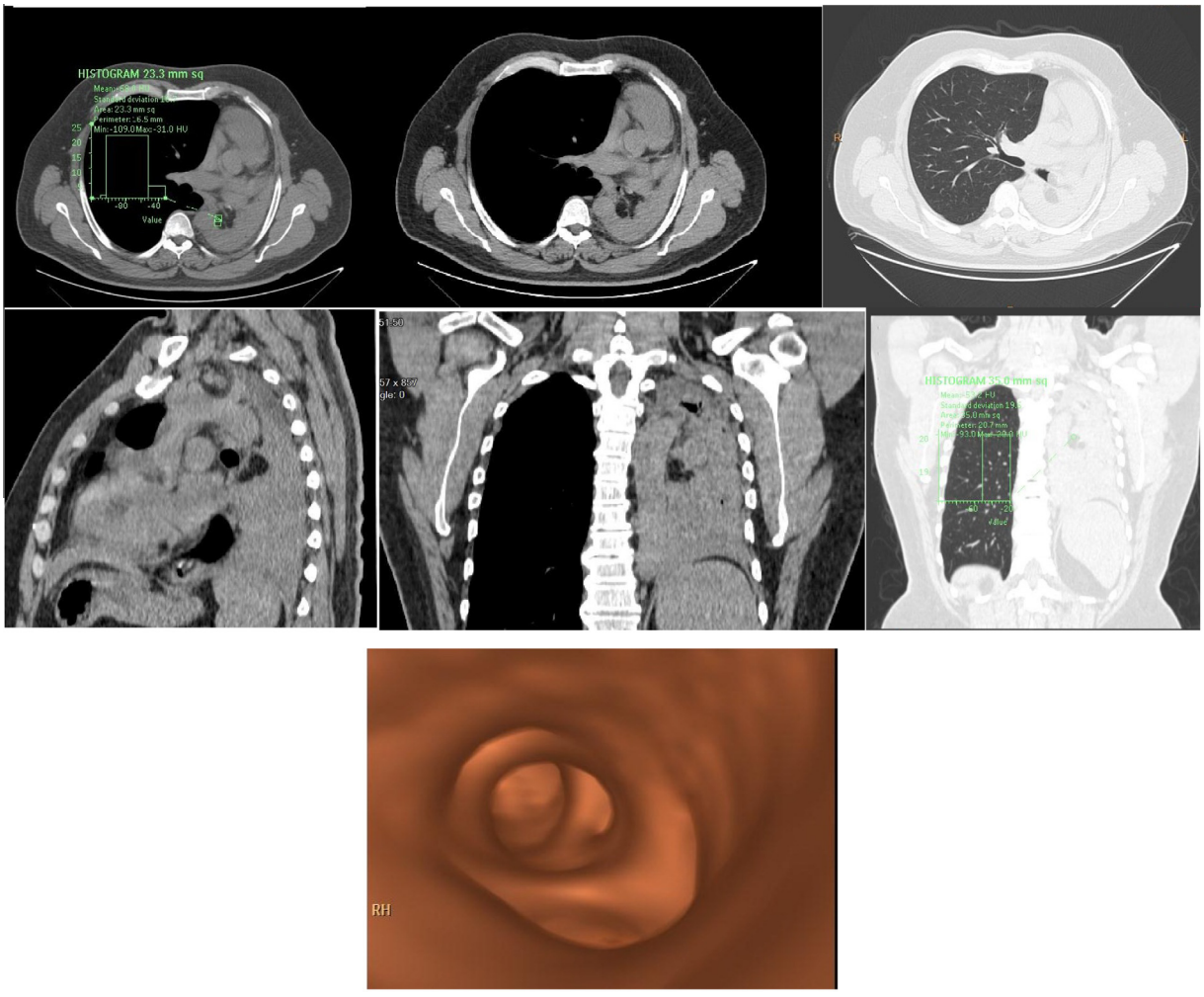

Figure 1

Bronchoscopic resection should be suggested as the primary treatment method after early detection. For this reason, bronchoscopic excision was performed after several times of balloon dilatation under general anesthesia. In the literature, extensive surgical therapy is indicated for patients who show the possibility of a complicated malignant tumor, with destructive peripheral lung disease and extrabronchial growth; early removal of endobronchial lipomas may prevent the need for surgical resection. Besides, it was reported that lipomas in the central airways are successfully treated by bronchoscopic laser therapy .The prognosis of this tumor is generally excellent because endobronchial lipomas are benign tumors.[2,3,5]

4. Conclusion

Bronchoscopic resection should be considered the first choice of treatment for endobronchial lipoma on initial detection. If the endobronchial lipoma is not recognized and removed early, progressive bronchial obstruction develops and irreversible lung collapse will be the result.

Conflict of interest

None.

References

1. Cao D, Sun Y, Yang S. Endobronchial lipoma: an unusual cause of bronchial obstruction. *Case Rep Med* 2011;**2011**(939808).
2. Eren F, Candan T, Eren B, Çomunoglu N, Çomunoglu C. Endobronchial lipoma. *J Pak Med Assoc* 2013;**63**(6):784–5.
3. Tronco G, Pasquali M, de Silva R, Pereira C. An infrequent cause of persistent cough: endobronchial lipoma. *Ann Saudi Med* 2012;**33**(6):636–7.
4. Celik G, Kaya A, Ozdemir O, Ozdemir N, Dizbay Sak S, Alper D. Endobronchial lipoma: a case report. *Tuberk Toraks* 2003;**51**(4):432–5.
5. Muraoka M, Oka T, Akamine S, Nagayasu T, Iseki M, Suyama N, et al. Endobronchial lipoma review of 64 cases reported in Japan. *CHEST J* 2003;**123**(1):293–6.
6. Gaerte SC, Meyer CA, Winer-Muram HT, Tarver RD, Conces DJ. Fat-containing lesions of the chest1. *Radiographics* 2002;**22**(suppl.):S61–78.
7. Molinari F, Bankier AA, Eisenberg RL. Fat-containing lesions in adult thoracic imaging. *Am J Roentgenol* 2011;**197**(5):W795–813.
8. Cosio BG, Villena V, Echave-Sustaeta J, de Miguel E, Alfaro J, Hernandez L, et al. Endobronchial hamartoma. *CHEST J* 2002;**122**(1):202–5.