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Localized Bronchial Dilatations Revealing an Endobronchial Lipoma

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Abstract **Case Report**

Benign tracheobronchial tumors are rare and represent 1.9% of all intrathoracic tumors. Endobronchial lipoma accounts for less than 0.5% of benign bronchopulmonary tumors. The clinical signs are not specific. We report a case of a 45-year-old patient with chronic bronchorrhoea who consulted for the worsening of his bronchorrhea. The clinical examination was normal. Chest CT revealed atelectasis of the left lower lobe and localized bronchial dilatations revealing an endobronchial tumor on bronchoscopy. The histological study was in favor of a lipoma. The evolution was favorable.

Keywords: Bronchial dilatations, Endobronchial lipoma, Rare disease.

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INTRODUCTION

The endobronchial lipoma is an extremely rare benign tumor that represents 0.1% - 0.5% of all bronchial tumors, although its true prevelance remains unknown due to the low rate of reported cases [1]. It obstructs the bronchial light and leads to parenchymal harm irreversible sometimes. The clinical signs are not specific. We report the observation of a patient having an endobronchial lipoma revealed by the dilatations of localized branches and we describ the diagnosis and therapeutical particularities of this rare entity and a literature review.

OBSERVATION

It's about a 45 year old man, ex-chronic smoker, diabetic for 5 years, known chronic bronchorrhoea for 6 years. He consulted for a worsening of his bronchorrhea which became purulent without hemoptysis with dyspnoea on exertion evolving for 4 months in a context of apyrexia and conservation of general condition. The clinical examination was essentially normal.

The biological assessment did not objectify hyperleukocytosis. The thoracic radiography showed left basal areolar images. (Figure1)

The thoracic scanner objectified an aspect of atelectasis of the left lower lobe on dilation of localized cylindrical bronchi. (Figure 2)

At this step, and taking into consideration the toxic history of the patient, a local cause and especially a carcinoid tumor seems to be the most probable diagnosis. The other mentionned diagnosis were endobronchial pseudotumor tuberculosis on immunosuppression (diabetes), a foreign body although the examination did not find any penetration syndrome, a benign tumor (hamartoma, lipoma, etc.), or an inflammatory stenosis. Flexible bronchoscopy revealed a rounded tumor completely obstructing the left lower lobe bronchus with a shiny and smooth vascularized surface (Figure 3). Biopsy not done given the hemorrhagic risk considered in front of the strong suspicion of a carcinoid tumor.

A left lower lobectomy by video-assisted thoracoscopy (VATS) for diagnostic and therapeutic purposes was performed. The preoperative assessment was normal, including the respiratory function (VEMS at 84%, VEMS/CVF at 110%).

The histological study of the endobronchial tumor objectified a fatty proliferation, regular, crossed by some blood vessels. The diagnosis retained: an endobronchial lipocytic lipoma. The patient progressed well clinically.

DISCUSSION

Benign tracheobronchial tumors are rare and represent 1.9% of all intrathoracic tumors. Endobronchial lipoma represents less than 0.5% of

benign bronchopulmonary tumors [1, 2]. It generally affects the first divisions of the bronchial tree and is found mainly in men, with an average age of 60 years [3]. Our patient was 45 years old. It was in 1854 that Rokitansky described the first endobronchial lipoma on an autopsy study [4]. Lipomas can be classified into five groups: endobronchial, parenchymal, pleural, mediastinal, and cardiac [5].

The clinical signs are far from specific, resulting in signs of bronchial obstruction such as recurrent pneumonia [6]. Cough, hemoptysis, dyspnea can also be revealing, and often pose a problem of differential diagnosis with primary bronchopulmonary cancer or another benign bronchial tumor (lipomatous hamartoma, leiomyoma, papilloma, etc.) malignant or low grade (carcinoid tumour) [6]. However, up to 25% of cases remain asymptomatic [7]. Our patient presented symptoms of bronchial obstruction and recurrent superinfection.

Standard radiography most often identifies the parenchymal consequences linked to endobronchial obstruction such as bronchiectasis, recurrent pneumopathy or atelectasis [8, 9]. On the other hand, masses of fatty density are easily recognized on cross-section (CT, MRI) because of their specific radiological density [8]. However, the presence of fatty tissue is not always recognized on CT when the endobronchial tumor is small [8], as was the case in our patient. The diagnosis is made in this case by endoscopy or by histological examination of the piece of pulmonary excision.

Flexible bronchoscopy assesses the location of the tumour, its appearance, allows biopsies to be taken for histological confirmation and the excision of small lipomas [10].

The prognosis seems favorable with very minimal recurrence rates. In a recent meta-analysis in 2020 of 29 studies of endobronchial lipoma reported since 1994 and including 36 cases, only one long-term recurrence (17 months after resection) was noted [11].

Treatment options include thoracotomy or bronchoscopic resection. Endoscopic therapy remains the treatment of choice by laser, cryotherapy or electrosurgery with mechanical reduction [3,12]. Indications for endoscopic resection include centrally located endoluminal tumor with limited extension into the endobronchial tree. The indication for surgery will be reserved in the event of extraluminal extension, uncertain tumor etiology or destruction of the parenchyma downstream of the obstruction by recurrent pneumonia [12]. Given the suspicion of a low-grade malignancy (carcinoid tumor) and the presence of downstream parenchymal lesions, we proposed for our patient an anatomical lobectomy in order to provide the least invasive approach with an anatomical resection preserving the lungs.

CONCLUSION

Endobronchial lipomas are rare benign tumors that can present insidiously and slowly grow. Thin-section CT and MRI are of great diagnostic value. Confirmation, however, is histological. The extent of the airway obstruction determines the type of intervention needed. Given the possibility of relapse, careful monitoring after resection is recommended.

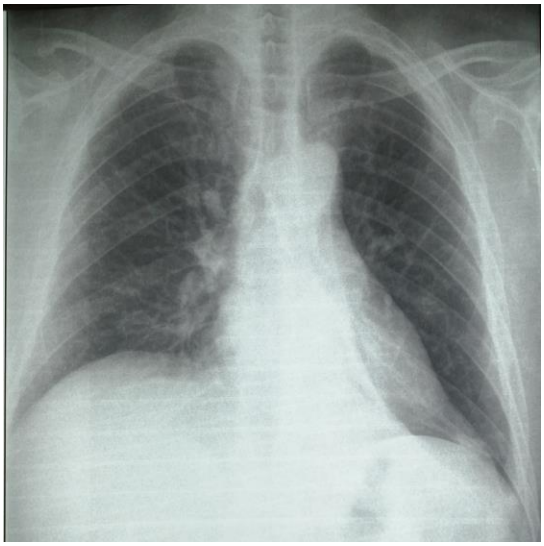

Fig-1: Frontal chest x-ray shows atelectasis of the left lower lobe left basal areolar images

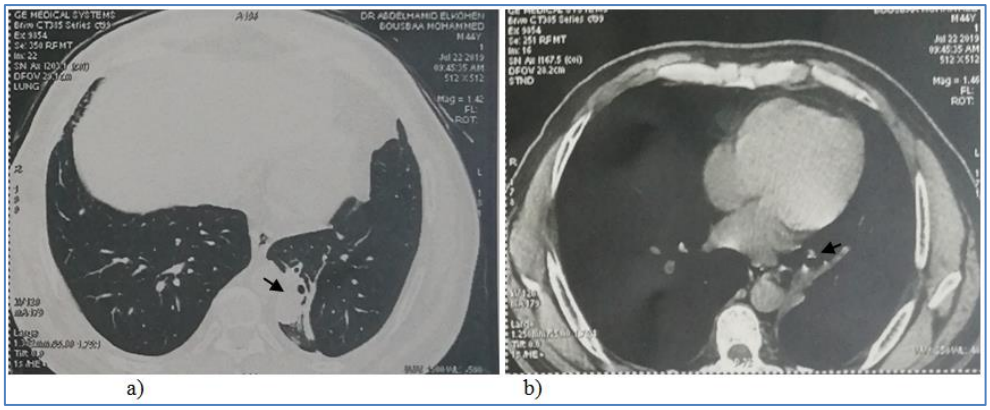

Fig-2: Thoracic computed tomography: a) localized left lower lobe bronchial dilatations b) appearance of atelectasis

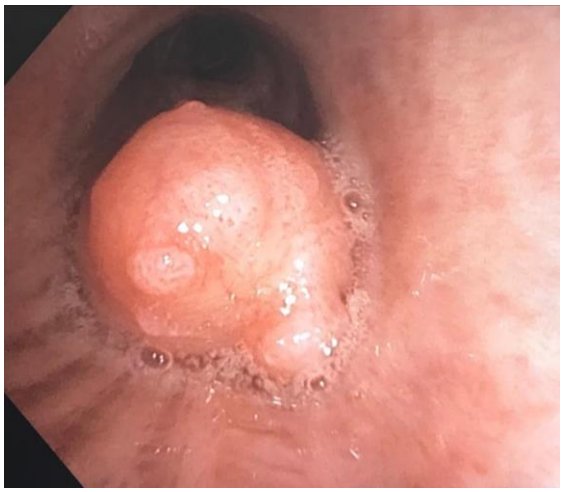

Fig-3: Endoscopic appearance. Tumor obstructing left lower lobe bronchus with smooth shiny surface

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