

Endobronşial Lipomun Sanal Bronkoskopi ile Çok Kesitli BT Bulguları: Olgu Sunumu

Multislice Computed Tomography with Virtual Bronchoscopy Findings of Endobronchial Lipoma: A Case Report

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ÖZ

Endobronşial lipom, ana bronşun peribronşial ve submukozal dokuda lokalize yağ hücrelerinden köken alan oldukça nadir benign bir tümördür. Endobronşial lipom asemptomatik olabilir, semptomları ise bronşial obstrüksiyonun şiddetine bağlıdır. Radyolojik tam lezyonun yağ yoğunluğunu göstermeye dayalıdır. Bronkoskopik biyopsiler, tümörün kalın fibröz kapsülüne bağlı olarak sıklıkla tanısız olamayabilir veya kronik inflamasyona sekonder bulunan atipik hücreler nedeniyle yanılgıya olabilir. Bu nedenle BT, endobronşial lipomların tanısında son derece önemlidir. Romatoid artritli 75 yaşındaki bir erkek hastada bilgisayarlı tomografide (BT) yağ dansitesinde homojen bir kitle saptanmıştır. Burada ÇKBT ve endobronşial lipomun (EBL) sanal bronkoskopi bulguları sunulmuştur.

Anahtar Kelimeler: Tanısız görüntüleme, çok kesitli bilgisayarlı tomografi, endobronşial, lipoma

ABSTRACT

Endobronchial lipoma is an extremely rare benign tumor that originates from the fat cells located in the peribronchial and the submucosal tissue of main bronchi. They may be asymptomatic if present symptoms depend on the location of the tumor, the severity of bronchial obstruction. Radiological diagnosis is based on demonstrating fat density of the lesion. Bronchoscopic biopsies are frequently nondiagnostic due to the tumor's thick fibrous capsule or may be confusing due to atypical cells are found secondary to chronic inflammation. Thus CT is extremely important in the diagnosis of endobronchial lipomas. A pedunculated homogeneous mass with fat density is encountered on computed tomography (CT) in a 75 year old man with rheumatoid arthritis. Herein we report MDCT and virtual bronchoscopy findings of endobronchial lipoma (EBL).

Keywords: Diagnostic imaging, multislice computed tomography, endobronchial, lipoma

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INTRODUCTION

Endobronchial lipoma is an extremely rare benign tumor that originates from the fat cells located in the peribronchial and the submucosal tissue of main bronchi. They may be asymptomatic if present symptoms depend on the location of the tumor, the severity of bronchial obstruction. Radiological diagnosis is based on demonstrating fat density of the lesion. Bronchoscopic biopsies are frequently nondiagnostic due to the tumor's thick fibrous capsule or may be confusing due to atypical cells are found secondary to chronic inflammation. Thus CT is extremely important in the diagnosis of endobronchial lipomas. A pedunculated homogeneous mass with fat density is encountered on computed tomography (CT) in a 75 year old man with rheumatoid arthritis. Herein we report MDCT and virtual bronchoscopy findings of endobronchial lipoma (EBL).

CASE REPORT

A 75 year old male was admitted to the hospital due to cough and dyspnea which had increased during the last months. He was being followed due to rheumatoid arthritis for ten years. He had also a history of hypertension for eight years. He had a history of 15 packages/year cigarette smoking; however, he had quit smoking 30 years ago. He had been using methyl prednisolone 2mg/day, leflunomide 20 mg/day and amlodipin 10 mg/day. On physical the heart and lungs were normal on auscultation. Synovial hypertrophy was noted on the bilateral wrists. The erythrocyte sedimentation rate was 27 mm/h. ECG revealed first degree A-V block, on echocardiogram the ejection fraction was 71%; left ventricular hypertrophy and left ventricular diastolic dysfunction were noted. Pulmonary function tests were performed: FVC:77%, FEV1/FVC:75%, DLCO: 71% and DLCO/VA:82%. On Chest rontgenogram slightly enlarged hilum was suspected. A thorax CT was scheduled. MDCT (Toshiba, Computed Tomography Scanner Aquillion 64) revealed smooth surfaced, 2.5 cm in diameter, a fat density (-130 HU) lesion inside the right lower bronchus (Figure 1 and 2). He was diagnosed as endobronchial lipoma. Virtual bronchoscopy revealed a well-defined, smooth-surfaced, round

endobronchial lesion protruding into the medial face of the right lower bronchus (Figure 3).

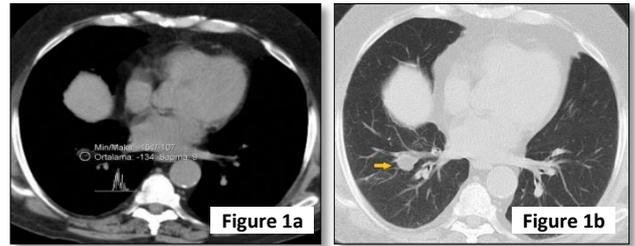


Figure 1a

Figure 1b

Figure 1a: Axial CT of the chest demonstrates an endotracheal fat density lesion inside the right lower bronchus.

Figure 1b: On parenchyma window a well defined, hyperdense lesion is seen.



Figure 2a

Figure 2b

Figure 2a: Coronal reformat images shows an endotracheal fat density lesion inside the right lower bronchus.

Figure 2b: Coronal reformat images shows an endotracheal fat density lesion inside the right lower bronchus..

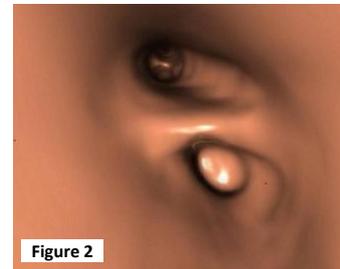


Figure 3: Virtual Endoscopic image shows a well defined, partial obstructing smooth neoplasm on the medial face of the right lower bronchus.

Since it is proven to be a benign lesion via CT findings, and bronchoscopic biopsies are frequently reported to be nondiagnostic due to tumor's thick capsule, the patient refused bronchoscopic biopsy and resection.

DISCUSSION

Most tumors of the tracheobronchial tree are malignant. Benign pulmonary tumors are rare entities, and among them lipomas are the most uncommon. Bronchial benign tumors comprise fewer than 4% of pulmonary neoplasms, and endobronchial lipoma with incidence reported as ranging from only 0.1% of all pulmonary tumors

and roughly 3.2%–9.5% of all benign endobronchial tumors (1). EBL arise centrally from fatty tissue in the walls of the lobar or segmental bronchi and usually it is located on the right side, and the most frequent are located in the first three subdivisions (2, 3). In our case tumor was located in the distal of right lower bronchus. Although it may occasionally asymptomatic, if present symptoms mainly result from bronchial obstruction and complete obstruction can cause subsequent lung damage. Persistent cough, dyspnea, chest pain, hemoptysis and recurrent pneumonia may be seen (4, 6). Hemoptysis is unusual due to the avascular nature of lipomas, but can occur as a result of postobstructive infection (7). Cough and dyspnea were the major symptoms of our patient.

EBL is mostly seen in middle aged adults around fifth and sixth decades (6, 8). There is a male predominance. It is claimed that smoking and obesity are significant risk factors for endobronchial lipoma (9). Our case was a 75 year old man who had been a smoker. Enlargement of the hilar shadow, parenchymatous consolidation, atelectasis, bronchiectasis can be seen on chest X-ray films (4, 8). Slightly enlarged hilum was suspected in our case, atelectasis was not present.

In 1982, Sommer et al (10) reported the first case of a lipoma identified by CT, he reported that the tumor is often a homogeneous mass with fat density (from -70 HU to -140 HU) and no enhancing contrast. A CT scan of the chest is an important diagnostic tool since it enables early diagnosis and avoids unnecessary thoracotomies (8). The size of the lesions reported in the literature varies from less than 1 cm to more than 7 cm, the mean diameter being 2 cm. Lipomas are mostly pedunculated, occasionally sessile and rarely dumbbell-shaped (11).

Bronchoscopic biopsies are frequently reported to be nondiagnostic owing to the tumor's thick fibrous capsule or are misleading if atypical cells are found secondary to chronic inflammation (4, 5, 12). Thus primary diagnosis depends on demonstration fat density on CT. Bronchoscopy was inconclusive, but CT provided the definitive diagnosis by demonstrating fat within the endobronchial tumor. CT scan is valuable in localizing the origin and extent of the tumor. The

presence of fat within the lesion is highly suggestive of a lipoma (8). A smooth surfaced, 2.5 cm in diameter, a fat density (-130 HU) lesion inside the right lower bronchus was seen on MDCT of our case. Virtual bronchoscopy revealed that EBL caused partial obstruction of the bronchus. We believe virtual bronchoscopy obtained via MDCT can replace conventional bronchoscopy and biopsy is not required for every case.

To conclude fat density seen on CT of the bronchial tumor is sufficient for EBL diagnosis. Virtual bronchoscopy obtained via MDCT adds valuable information by demonstrating the extent of obstruction and may contribute to patient's management by omitting bronchoscopy it is recommended to be accompanied conventional CT images.

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