Tracheal lipoma mimicking obstructive lung disease*

Lipoma de traqueia simulando doença pulmonar obstrutiva

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Abstract

Tracheal tumors are rare and can be difficult to diagnose due to their capacity to mimic other obstructive lung diseases, such as asthma and COPD. We report the case of a female patient with a tracheal tumor. She had previously been treated for asthma and COPD, with little response to the treatment. The onset of infectious complications prompted further investigation. Chest CT images suggested the presence of a tumor, which was confirmed by fiberoptic bronchoscopy. The tumor was endoscopically resected. However, the patient evolved to death due to pneumonia and septic shock.

Keywords: Lipoma; Lung diseases, obstructive; Tracheal neoplasms.

Resumo

Os tumores de traqueia são raros e podem ser de difícil diagnóstico, por mimetizarem outras afecções pulmonares de caráter obstrutivo, como asma e DPOC. Relatamos um caso de lipoma de traqueia em uma paciente que fora tratada para asma e DPOC, sem resposta adequada, até apresentar complicações infecciosas. A presença do tumor foi sugerida por TC de tórax e confirmada por fibrobroncoscopia. A paciente foi submetida à ressecção endoscópica do tumor; porém, evoluiu para o óbito por pneumonia e choque séptico.

Descritores: Lipoma; Pneumopatias obstrutivas; Neoplasias da traqueia.

Introduction

Primary tracheal tumors are very rare, with an incidence of 0.2/100,000 population.[1] Benign tumors are a minority (10-20%), and there are few reports of tracheal lipoma in the literature.[1-3]

Usually, the patients present with respiratory symptoms that mimic obstructive lung diseases and can be erroneously treated for asthma or COPD. Inadequate response to treatment generally leads to the suspicion of major airway obstruction, which can be confirmed by means of fiberoptic bronchoscopy.

We report the case of an elderly woman with tracheal lipoma who had previously been treated for asthma and whose diagnosis was only clarified after the onset of obstructive pneumonia and sepsis when the patient was in the ICU.

Case report

An 86-year-old female nonsmoker was admitted presenting dyspnea at rest, wheezing, chest pain and cough with mucoid expectoration. She had presented progressive worsening for one week. The patient reported no fever or hemoptysis. She reported periodic episodes of dry cough, wheezing and dyspnea in the last two years. During that period, the patient had been submitted to treatment with bronchodilators, inhaled corticosteroids and oral corticosteroids, which evoked a partial response. During the previous year, she had presented an episode of pneumonia and was treated as an outpatient.

According to the family, the patient had diabetes mellitus, hypothyroidism and Alzheimer's disease.

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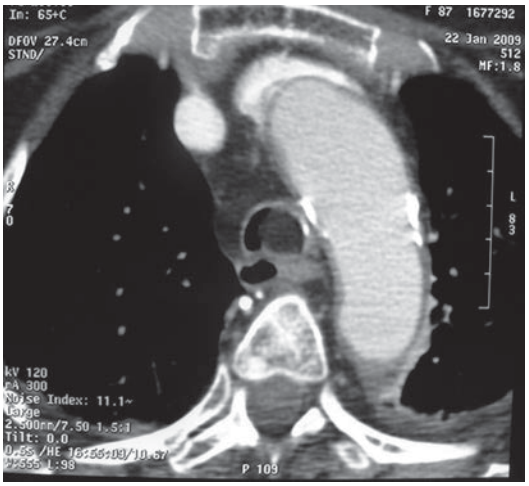

Figure 1 - Chest CT scan showing lesion with adipose tissue density in the trachea.

Physical examination revealed tachypnea, tachycardia, labored breathing, diffuse wheezing, diminished breath sounds at the lung bases and an SpO_2 of 86%, although she was receiving supplemental oxygen (5 L/min) via a nasal cannula. There was no evidence of stridor or noisy respiration.

A routine chest X-ray revealed signs of lung hyperinflation and alveolar consolidations in the lower halves of both pulmonary fields, bilaterally. The patient was admitted to the ICU, with an initial diagnosis of pneumonia and respiratory failure, where she was submitted to mechanical ventilation.

On a chest CT scan, bilateral alveolar consolidations were confirmed in the lower lobes, and a rounded mass, with low attenuation coefficient, was seen in the topography of the trachea, causing almost complete airway obstruction (Figure 1).

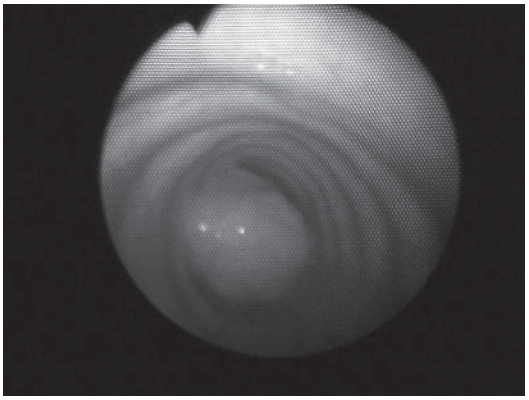

Figure 2 - Picture of the lesion in the lower third of the trachea, obtained during the fiberoptic bronchoscopy.

Based on the clinical and radiological suspicion of tracheal tumor, the patient was submitted to fiberoptic bronchoscopy, which confirmed the presence of a single pedunculated mobile lesion, with a smooth surface, implanted on the left lateral wall of the distal trachea, causing the obstruction of approximately 90% of the tracheal lumen (Figure 2). The lesion was endoscopically resected with the aid of a polypectomy snare, and the base of the pedicle was cauterized. The anatomopathological study of the material revealed histological findings compatible with lipoma (Figure 3).

Although there was clearance of the upper airways after the endoscopic surgery, improved pulmonary auscultation and decreased wheezing, the patient presented sepsis and progressive worsening, leading to her death on postoperative day six.

Discussion

Primary tracheal tumors are rare and are malignant in approximately 80% of cases.[1,2,4] Among the benign cases, recurrent papillomatosis is the most common histological type, and its association with the human papilloma virus has been well established. Adenomas, leiomyomas, hamartomas, chondromas, neurofibromas, hemangiomas, glomus tumors and lipomas are also cited, among others. Endobronchial lipomas represent 0.1-0.5% of all pulmonary tumors (malignant and benign); however, we have found no statistical data reporting the incidence of tracheal lipoma.[5,6] In a case series carried out in Japan, 64 cases of endobronchial lipoma were reported; however, no tracheal lipoma was reported.[7]

Approximately 50% of the benign tracheal neoplasms occur in the lower third of the trachea and are generally pedunculated.[2] Usually, their clinical presentation mimics that of obstructive lung diseases, such as asthma and COPD, leading to a delay in diagnosis and errors in the treatment.[4] Some peculiar situations can mimic the clinical profile of asthma: 1) worsening of dyspnea in the supine position in cases of tumors with an anterior pedicle, which can be confused with nocturnal asthma; 2) finding of a hyperinflated lung on chest X-rays in cases

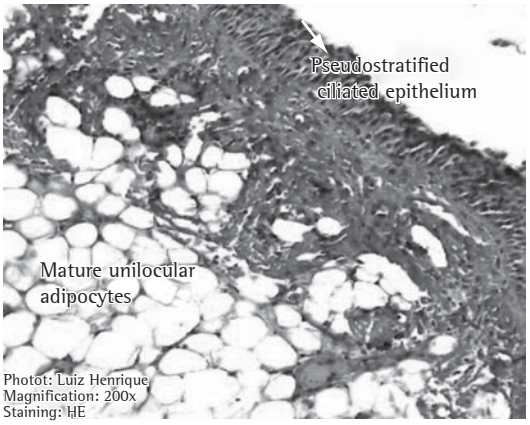

Figure 3 - Histopathological material showing pseudostratified ciliated epithelium of the trachea and adipose cells of the lipoma.

of tumors that have a ball-valve effect; and 3) short-term improvement after the use of oral corticosteroids, caused by the reduction of the edema surrounding the tumor.[2]

Regarding the clinical profile, patients can be asymptomatic or can present intermittent or progressive dyspnea. Hemoptysis and cough can be observed, as well as symptoms such as fever, expectoration and asthenia, caused by secondary infections. Physical examination can reveal clinical signs of airway obstruction and respiratory failure, such as wheezing, stridor, tachypnea, accessory muscle recruitment during respiration and signs of toxemia (in cases of infectious complication).

Among the methods for assessment available, chest X-rays are of little use, except in cases in which there is pulmonary hyperinflation or in cases in which the lesion is detected on lateral X-rays. Spirometry allows us to presume the location of the obstruction (intrathoracic or extrathoracic) by means of the study of the morphology of the flow-volume curve. It can also indicate the dynamic behavior of the lesion (variable or fixed) and provide an evaluation of the severity of the obstruction. Tracheal lesions can also be seen on chest CT scans. However, the gold standard for the diagnosis of these lesions is fiberoptic bronchoscopy, by means of which it is possible to identify the lesion, perform the biopsy and often perform the endoscopic resection. Other treatment modalities are curettage, laser, cauterization and cryosurgery. Excision by thoracotomy or sternotomy is indicated in cases in which there is an extraluminal extension of the tumor or in cases of endoscopic treatment failure, although this is seldom necessary.[4,6]

The case reported here shows the need for considering major airway obstruction by tumors in the differential diagnosis of patients with obstructive lung diseases, especially in patients who do not present a satisfactory response to optimized treatment.

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