A Rare Cause of Hemoptysis: Benign Metastasizing Leiomyoma A Case Report

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Abstract

Leiomyoma is a rare benign neoplasm composed of smooth muscle; it occurs mostly in the uterine corpus but may also be encountered frequently in the wall of the alimentary tract and tracheobronchial tree. A 66-year-old Caucasian woman presented with hemoptysis of ten days duration and progressive dyspnea. The chest roentgenogram revealed multi-cavitary lesions. The pathological examination of bronchoscopic biopsy revealed spindle cell proliferation. The immunohystochemical examination demonstrated great positivity with actin leading to the diagnosis of benign metastasizing leiomyoma.

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Introduction

Leiomyoma is a benign neoplasm composed of smooth muscle; it occurs mostly in the uterine corpus but may also be encountered frequently in the wall of the alimentary tract and in the tracheobronchial tree. Benign metastasizing leiomyoma is a rare condition; 40 cases have been reported in the literature. We present a case of a leiomyoma localized in the tracheobronchial tree.

Case Report

A 66-year-old Caucasian woman presented with hemoptysis which developed in the past 10 days. Progressive dyspnea was present for one year. She had suffered from a similar episode of hemoptysis 3.5 years ago but had refused further investigation despite an abnormal chest x-ray . She had a hysterectomy performed 6 years earlier for uterine myoma.

A chest roentgenogram revealed a 5x6 cm sized cavitary appearance in the right upper lobe, a 3x4 cm sized cavity superposed with the left border of the heart and an ill-defined infiltration superposed with the left clavicula (Fig. 1A). A computerized tomography demonstrated multiple cavitary lesions (Fig. 1B).

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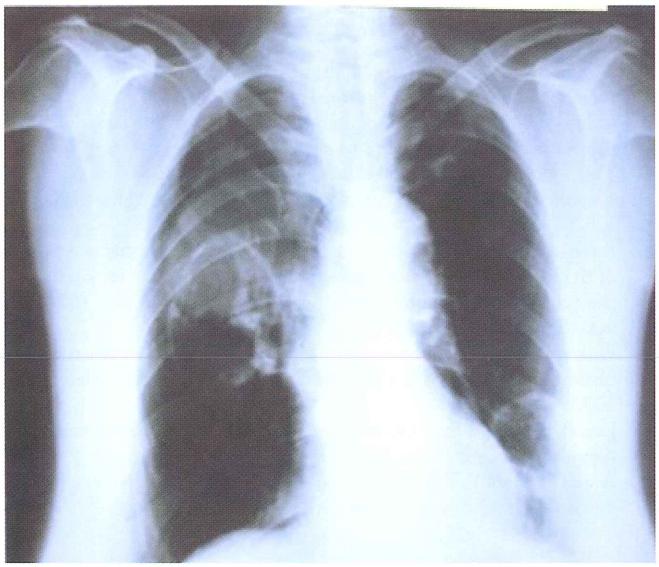

Figure 1A. Chest roentgenogram showing a 5x6 cm cavitary lesion in the right upper lobe, a 3x4 cm cavitary lesion superposed with the left border of the heart and an ill-defined infiltrative lesion superposed with the left clavicula.

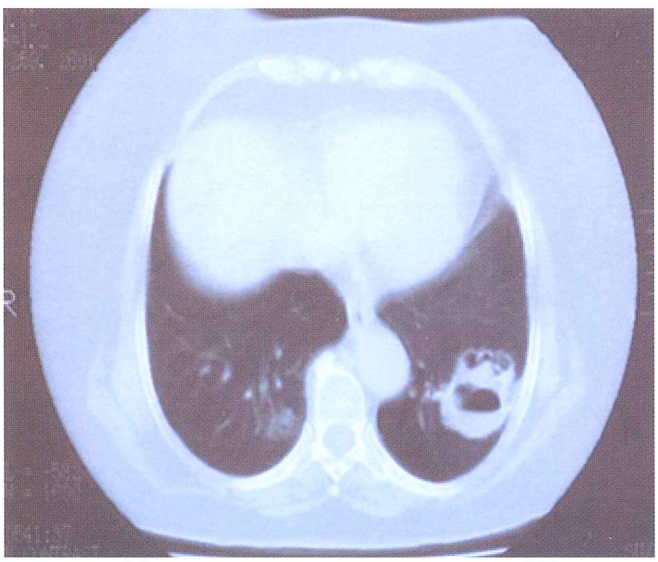

Figure 1B. Computerized tomography showing a cavitary lesion in the posterior segment of the left lower lobe.

Fiberoptic bronchoscopy revealed a tumor obstructing the right main bronchus and also the blood flow from the lower lobe of the left lung (Fig. 2). Massive hemoptysis did not permit further biopsies during initial bronchoscopy and the biopsy material obtained proved insufficient for pathologic diagnosis. A second bronchoscopy was performed. This time, the pathological examination revealed spindle cell proliferation and immunohistochemical examination demonstrated great positivity with actin, leading to a diagnosis of benign metastasizing leiomyoma.

Discussion

The most common cause of multiple pulmonary cavitary lesions are metastatic diseases but septic emboli, tuberculosis, fungal infections, rheumatoid nodules, Wegener's granulomatosis, hydatid cyst and multiple primary bronchial carcinoma should all be considered in the differential diagnosis (1).

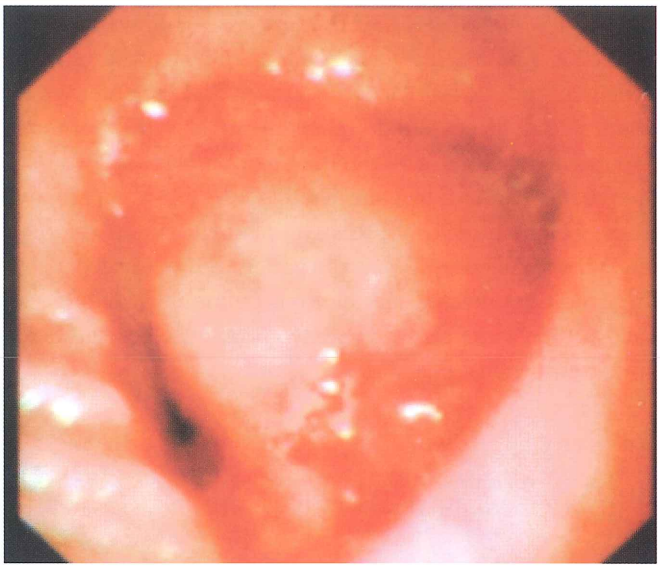

Figure 2. The tumor obstructing the right main bronchus.

Benign metastasizing leiomyoma is very rare. Forty cases have been reported to date (2). These tumors occur most commonly in the uterine corpus. There is general agreement that leiomyomas of the bronchus originate from the smooth muscle fibers of the bronchial wall, while leiomyomas of the lung are considered to be metastases from uterine myomas. The most common sites of metastasis are the lungs and lymph nodes (2,3). The fact that these tumors occur twice as often in women and that many of these women have uterine myomas (43%) tends to support this theory (3). Benign metastasizing leiomyoma is characterized by the occurrence of multiple smooth muscle nodules, most often localized in the lung, associated with a previous or coincident history of uterine leiomyoma. Typically, patients have a history of hysterectomy 3-20 years before the appearance of lung nodules. The nodules can vary in size up to 5 cm and may cavitate. These nodules can be situated either in the parenchyma or airways (4-6). Symptoms depend on the size of the nodules. The most common symptoms are dyspnea, hemoptysis and chest pain. Pathological findings include atypical nuclei, high cellularity and spindle cell proliferation without mitosis. The delay in the appearance of the leiomyomas is explained by the incredibly slow tumor growth rate (2,4).

Endobronchial metastases can originate from extrapulmonary organ tumors. Endobronchial metastases originating from breast, kidney, uterine cervix, colon, rectum, sarcoma and skin have been reported (7).

Resection of the tumor, whenever possible, is the primary treatment of choice. Endobronchial tumor resection can be done in suitable cases. Spontaneous regression in some cases

support the hypothesis that the tumors are hormone dependent (8). The uterine leiomyoma is known to be estrogen sensitive. In lung lesions both estrogen and progesterone receptors have been found. Therefore surgery and hormonal treatment including progesterone can be planned. An oophorectomy can also be considered (2). In our case palliative endobronchial therapy with argon plasma therapy was planned for the hemoptysis, but the patient did not accept.

In patients presenting with multiple pulmonary cavitary lesions, benign metastasizing leiomyoma should be considered in the differential diagnosis.

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