

Benign Metastasizing Pulmonary Leiomyoma: A Rare Case Report

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Abstract

Case Report

Background: Benign metastasizing pulmonary leiomyoma (BMPL) is a rare condition characterized by pulmonary dissemination of histologically benign smooth-muscle tumors, typically occurring in women with a history of uterine leiomyoma surgery. **Case presentation:** A 52-year-old woman with prior surgery for uterine fibroids presented with a chronic productive cough. Imaging revealed multiple bilateral pulmonary nodules. Bronchoscopy and laboratory investigations were unremarkable. Transthoracic biopsy with histopathology and immunohistochemistry supported the diagnosis of benign metastasizing leiomyoma. **Conclusion:** BMPL should be considered in women presenting with multiple pulmonary nodules and a history of uterine leiomyoma. Diagnosis relies on clinicoradiological correlation and histopathological confirmation.

Keywords: benign metastasizing leiomyoma; pulmonary nodules; uterine leiomyoma; smooth- muscle tumor; case report.

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INTRODUCTION

Benign metastasizing pulmonary leiomyoma is an uncommon entity in which histologically benign smooth-muscle tumors are found in the lung, often years after treatment of uterine leiomyomas. Although benign at microscopy, the imaging appearance may mimic pulmonary metastases, making diagnosis challenging. We report a case diagnosed in our radiology department and highlight key diagnostic considerations.

MATERIALS AND METHODS

This concerns a 52-year-old female patient from the Tahnout region (Morocco) with a past medical

history of hypertension treated with angiotensin II receptor blockers (ARBs) and diuretics. She underwent surgery for a uterine fibroid in 2018; histopathology reported two uterine leiomyomas. She presented with a 5-month history of productive cough with whitish sputum, without hemoptysis or dyspnea, and without other associated thoracic or extra-thoracic symptoms. Clinical examination was unremarkable. Paraclinical investigations included chest radiography, thoracic and abdominopelvic CT, breast ultrasound, and endoscopic and laboratory tests.

CASE PRESENTATION



A 52-year-old woman from the Tahnout region (Morocco) with a history of hypertension treated with

angiotensin II receptor blockers and diuretics underwent surgery for uterine fibroids in 2018. Histopathological

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examination reported two uterine leiomyomas. She presented with a five-month history of productive cough with whitish sputum, without hemoptysis or dyspnea, and without other associated thoracic or extra-thoracic symptoms. Physical examination was unremarkable. Chest radiography demonstrated multiple bilateral pulmonary nodules, well circumscribed and of variable size. Thoracic computed tomography confirmed multiple well-defined nodules without enhancement after iodinated contrast injection; one lesion was cavitated. Bronchoscopy demonstrated diffuse bilateral grade II

inflammatory changes. Bronchoalveolar lavage cytology was negative for malignancy. Laboratory investigations, including hydatid and Aspergillus serologies and an immunological workup, were unremarkable. A CT-guided transthoracic needle biopsy of a pulmonary nodule was performed. Histopathology demonstrated pulmonary parenchymal involvement by a tumoral proliferation with benign smooth-muscle features. Immunohistochemistry supported the diagnosis of benign metastasizing leiomyoma.

TIMELINE

Time	Event
2018	Surgery for uterine fibroids; histopathology reported two uterine leiomyomas.
~5 months before presentation	Onset of productive cough with whitish sputum.
Work-up	Chest radiograph and thoracic CT: multiple bilateral pulmonary nodules.
Work-up	Bronchoscopy/BAL and laboratory investigations unremarkable
Diagnostic step	CT-guided transthoracic biopsy: histology/IHC consistent with BMPL.

DISCUSSION

Benign metastasizing pulmonary leiomyoma is a rare form of metastasis of uterine smooth-muscle cells. The tumor is thought to enter the venous circulation as a result of the trauma caused by the surgical procedure. Pulmonary nodules may develop between 3 months and 20 years after the surgical intervention. The condition occurs almost exclusively in women and is characterized by multiple often leiomyomas disseminated through both lung fields, varying in size from a few millimeters to several centimeters. It is asymptomatic and discovered incidentally on imaging. It typically affects women with a mean age of 40–50 years and a history of surgery for uterine fibroids (leiomyomas). The differential diagnosis includes multiple fibroleiomyoma Tous hamartomas of the lung as well as primary pulmonary leiomyomas and leiomyosarcomas. Overall prognosis is good because lesions are generally hormone-sensitive, and treatment with oophorectomy and long-term progestins is generally beneficial.

Accurate diagnosis relies on integrating clinical history, imaging findings, and histopathological confirmation to avoid misclassification as malignant metastatic disease.

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- Mohammed Karam Saoud1, Imane Benchiba1 & Nisrine Mamouni1, Sanaa Errarhay1, Chahrazad Bouchikhi1, Abdelaziz Banani1 Fibrome utérin associé à un-STUMP (tumeurs musculaires lisses à potentiel de malignité incertaine): à propos d'un cas

CONCLUSION AND PERSPECTIVES

This case highlights the importance of considering benign metastasizing pulmonary leiomyoma in women presenting with multiple pulmonary nodules and a history of uterine fibroids.