

# An unusual cause of multiple incidental lung nodules

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## Abstract

Cystic or cavitating lung nodules may reflect an additional diagnostic challenge in benign metastasizing leiomyoma. Our case underlines the importance of combining clinical and radiological findings with specific pulmonary pathology consultation.

## KEYWORDS

benign metastasizing leiomyoma, imaging, leiomyoma, lung

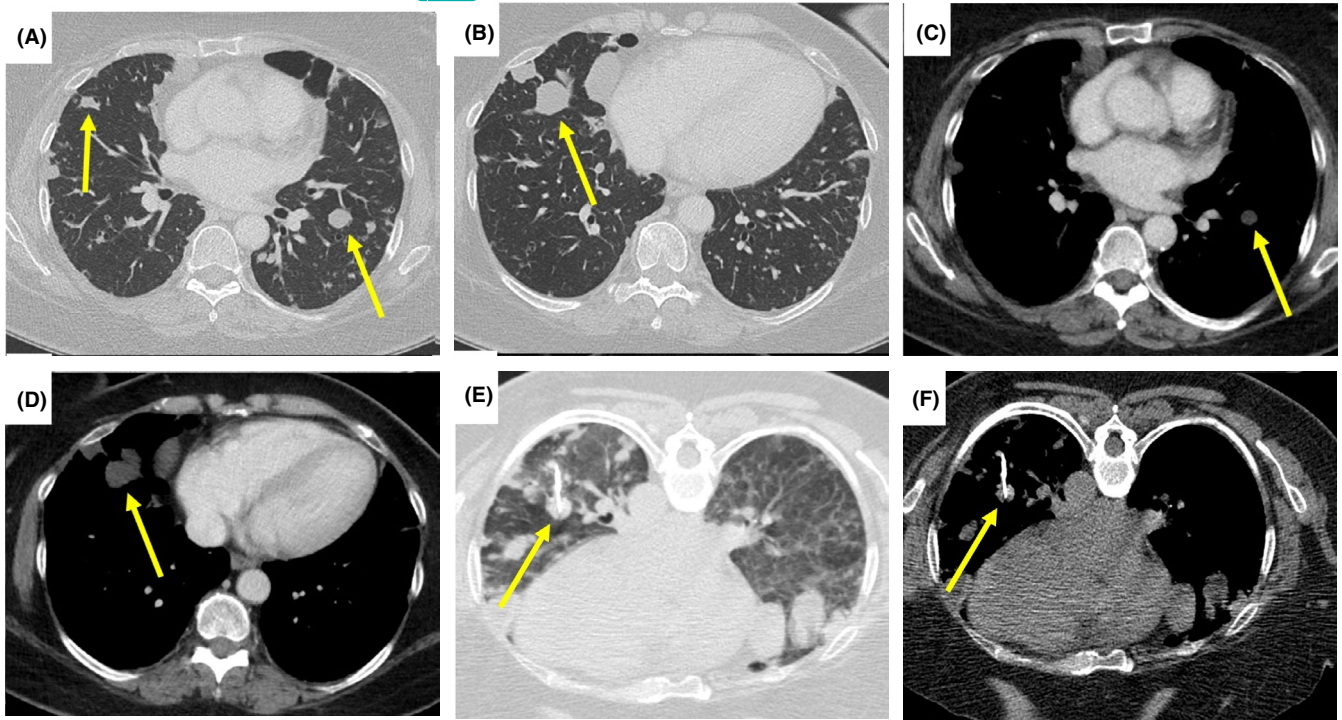
We present a patient with multiple incidental solid lung nodules and cysts. Pathology results from biopsy were initially equivocal with only moderate chronic inflammation. On review, a diagnosis of benign metastasizing leiomyoma was made. Our case underlines the importance of combining clinical and radiological findings with specific pulmonary pathology consultation.

A 63-year-old woman with hypertension and previous hysterectomy presented with atypical chest pain. Multiple incidental solid lung nodules and cysts were found on coronary calcium computed tomography (CT). Further analysis by CT imaging of chest (Figure 1) and abdomen did not reveal a primary malignancy. Subsequently, CT-guided biopsy was performed. Pathology results were equivocal with only moderate chronic inflammatory changes, without malignant proliferations. Findings were discussed in a multidisciplinary setting. As hysterectomy was performed because of myomas, a diagnosis of benign metastasizing leiomyoma (BML) was considered. After specific pulmonary pathology

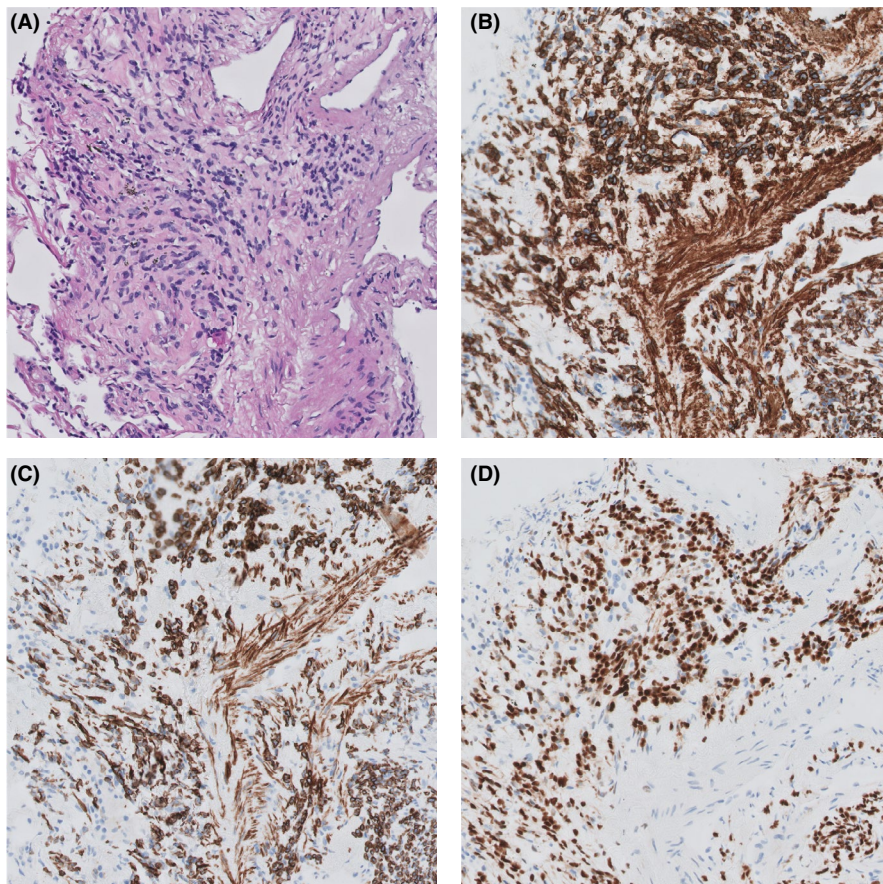
consultation, spindle cell proliferation was demonstrated (Figure 2). On review, uterine specimen from hysterectomy performed 28 years previously showed identical histology (Figure 2). Consequently, a diagnosis of BML was made.

BML represents a very uncommon clinical entity characterized by extrauterine spread of uterine leiomyomas. Most patients present with multiple solid lung nodules,<sup>1</sup> while less frequently cystic or cavitating nodules may also occur,<sup>2</sup> reflecting an additional diagnostic challenge as was the case in our patient.

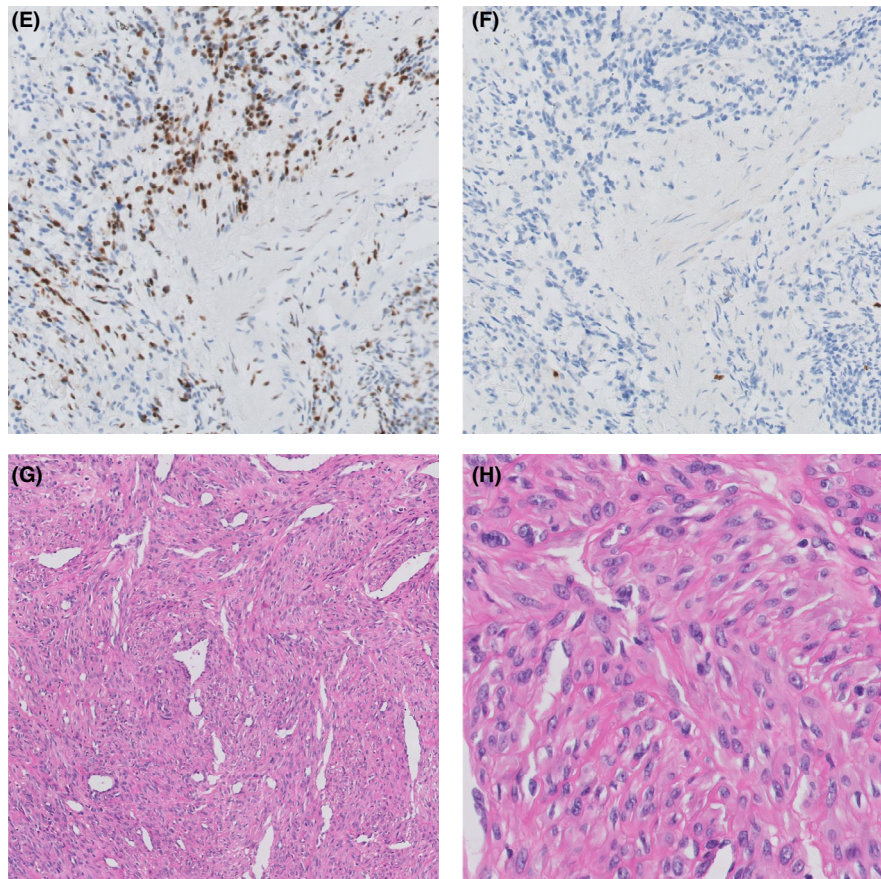
Benign metastasizing leiomyoma may be discovered incidentally many years after hysterectomy. Rarely hemoptysis, hemothorax or a pneumothorax may occur. Despite its indolent biologic behavior, all patients should undergo long-term CT surveillance. Surgical or hormonal treatment can be considered in selected patients with symptomatic or progressive lesions.<sup>3</sup> In our patient, pulmonary BML was incidental and considered unrelated to her chest complaints. Therefore, she was treated conservatively.



**FIGURE 1** Computed tomography (CT) of the chest in lung (A, B) and mediastinal setting (C, D) shows multiple small solid nodules and larger cysts, both air filled as well as fluid filled, scattered randomly throughout both lungs (arrows). CT-guided histological biopsy in prone position from posterior of a thick-walled cyst wall was performed (arrows) with additional biopsies of several small nodules within the biopsy tract (E + F)



**FIGURE 2** (Continued)



**FIGURE 2** Histological appearance of needle biopsy of lung nodule (A-F) and hysterectomy specimen (G + H), demonstrating morphologically identical leiomyomatous proliferations. Immunohistochemical stains showed positivity for alpha-smooth muscle actin (B), desmin (C), estrogen (D) and progesterone (E). Ki67 was almost negative (F). Scale bars = 100  $\mu$ m

## CONFLICT OF INTEREST

The authors report no conflict of interest.

## AUTHOR CONTRIBUTION

MLS: involved in conception and design, manuscript preparation. JHT: involved in conception and design, manuscript review. CK: involved in conception and design, manuscript review. HMEQU: involved in conception and design, manuscript review.

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