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Visual Diagnosis Pearl

Benign Metastasizing Leiomyoma: A Rare Case of Diffuse Pulmonary Nodule

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CASE PRESENTATION

A 53-year-old woman with a past medical history of hypertension, depression, anxiety and prediabetes presented to the primary care clinic for pre-operative evaluation for a cosmetic procedure. The patient reported feeling overall well. Review of systems was negative for shortness of breath, dyspnea on exertion, chest pain, fever, chills, abnormal weight loss, or abdominal pain. Her functional capacity was noted to be 4-10 METs. Past surgical history included a partial hysterectomy for uterine leiomyoma. Pertinent history included social tobacco use (totaling 4 pack years), 1 alcoholic beverage per week, and no recreational/ illicit drug use.

As part of her pre-op evaluation, a chest X-ray was obtained and demonstrated multiple bilateral pulmonary nodules (Figure 1).

Additional pre-operative evaluation included a complete metabolic panel, complete blood count, APTT, and prothrombin time. Other than mild leukopenia, no significant abnormalities were noted. A CT chest with contrast was obtained for further evaluation and revealed several dozen bilateral pulmonary nodules and several pleural based nodules (Figures 2 and 3). The largest were paraspinal nodules in the right upper and lower lobes measuring 28 mm. An indeterminate sclerotic lesion of the L2 vertebral body also

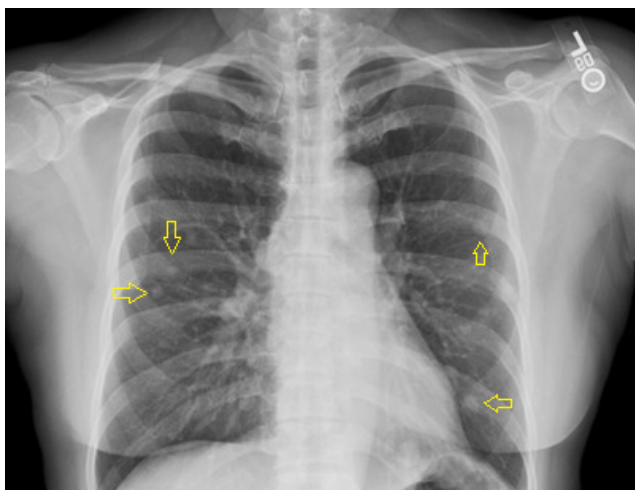


Figure 1. AP CXR – multiple bilateral pulmonary nodules

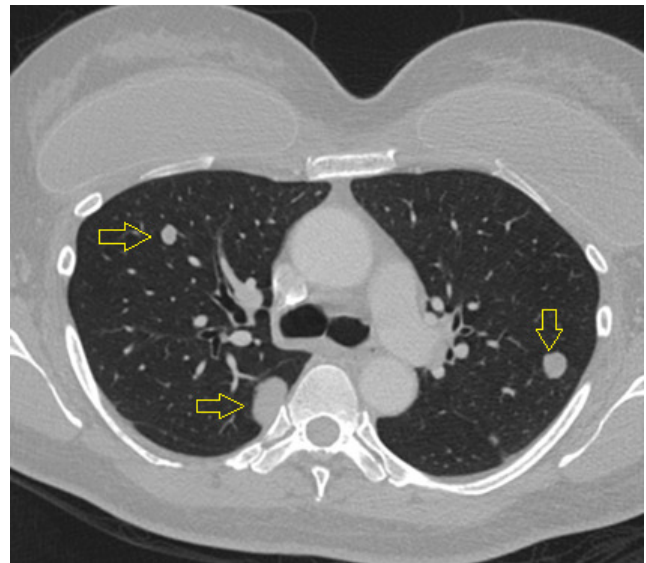


Figure 2. CT Slide 122/376 – Multiple pulmonary and paraspinal nodules

was noted. These lung nodules were noted to be well defined, round and solid.

The patient was referred urgently to pulmonology who suspected benign metastasizing leiomyomas over a malignant process given known history of uterine fibroids and ongoing cyclic hormonal symptoms. Lung biopsy was recommended for confirmation of diagnosis. Biopsies from the right middle and left lower lobes revealed low grade smooth muscle proliferation in the right middle lobe; no granulomas or malignancy noted. Estrogen and progesterone receptor status was noted to be positive. Respiratory cytology was negative for malignant cells. Pulmonology recommended hormonal management if tumors were asymptomatic versus cautious observation as the patient already had a hysterectomy in the past. Patient was referred to gynecology for subsequent management.

DISCUSSION

Benign metastatic leiomyoma is a rare condition in which smooth muscle tumors migrate to a distant location. Metastasis most commonly occurs in the lungs, but cases have been reported in the lymph nodes, bones, soft tissues, mesentery and the central nervous system.¹ It is suspected

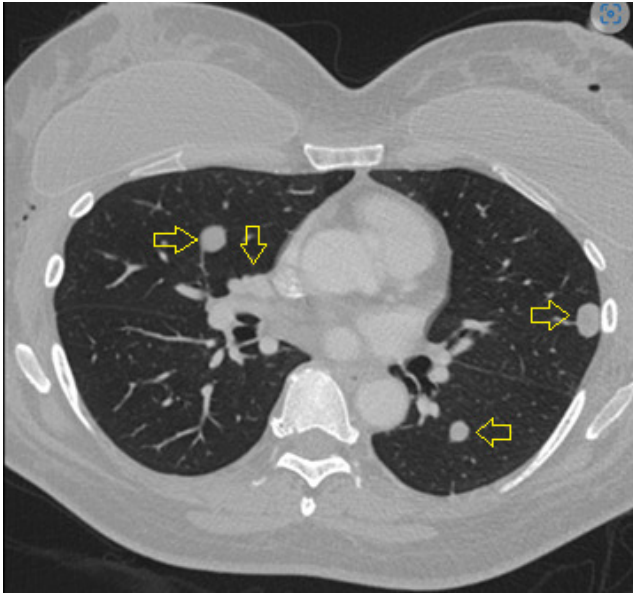


Figure 3. CT slide 158/376 Multiple pulmonary and pleural based nodules

that metastasis spreads through the vascular or lymphatic systems. It commonly occurs in individuals of reproductive age or older, often with history of hysterectomy or myomectomy.² The mean time from the primary surgery to BML diagnosis is 8.8 years.³

In this case, the patient was asymptomatic and the tumors were found incidentally on pre op evaluation. However, patients may present with pulmonary symptoms including chest pain, persistent cough, dyspnea, or recurrent respiratory infections.

While the presentation of diffuse pulmonary nodules can be alarming, it is important to consider lung nodule characteristics such as margins, calcification, size, and morphology for determination of benign versus metastatic

etiology. Features that favor benign etiology include smooth margins, fat presence, stability in size, or “pop-corn” calcifications; while metastatic nodules are generally spiculated with vascular presence, lobulations, evolving characteristics and are located in the upper lobes. Pathological verification with biopsy confirms the diagnosis to exclude other etiologies of diffuse pulmonary nodules such as pulmonary lymphangioleiomyomatosis, leiomyosarcomas, occult malignancy, or infections. In this case, biopsies reviewed low grade smooth muscle proliferation in the right middle lobe. The positive estrogen and progesterone receptor status indicated that primary pulmonary leiomyoma was less likely and nodules were most consistent with leiomyoma of uterine origin.

There are no standardized treatment guidelines for benign metastatic leiomyoma; thus, management of this condition can depend on symptomatology. As many patients are asymptomatic, expectant management can be an option. However, as these tumors are generally hormone dependent with estrogen and progesterone receptors, treatment options include hormone modulators including aromatase inhibitors, SERMs, GnRH agonist, and progesterone receptor antagonists which are often effective in reducing tumor size. Surgical options include bilateral oophorectomy or hysterectomy.⁴ While overall prognosis is generally favorable, continued surveillance is necessary as recurrence may occur.⁵ In this particular case, the patient considered options of GnRH analogs vs oophorectomy. However, given she is nearing menopause, the plan was to temporize with medically induced menopause through Lupron given lesions tend to improve post menopause. In conclusion, although the presentation of pulmonary nodules can be concerning, it is important to consider benign etiologies in patients with history of uterine fibroids as metastatic leiomyoma generally has a favorable prognosis.



REFERENCES

1. Rivera JA, Christopoulos S, Small D, Trifiro M. Hormonal manipulation of benign metastasizing leiomyomas: report of two cases and review of the literature. *J Clin Endocrinol Metab.* 2004;89(7):3183-3188. doi:[10.1210/jc.2003-032021](https://doi.org/10.1210/jc.2003-032021)
2. Asumu H, Estrin Y, Mohammed TL, Verma N. Benign metastasizing leiomyoma. *Curr Probl Diagn Radiol.* 2017;46(3):257-259. doi:[10.1067/j.cpradiol.2016.07.002](https://doi.org/10.1067/j.cpradiol.2016.07.002)
3. Barnaś E, Książek M, Raś R, Skręt A, Skręt-Magierło J, Dmoch-Gajzlerska E. Benign metastasizing leiomyoma: a review of current literature in respect to the time and type of previous gynecological surgery. *PLoS One.* 2017;12(4):e0175875. doi:[10.1371/journal.pone.0175875](https://doi.org/10.1371/journal.pone.0175875). PMID:28426767
4. Pacheco-Rodriguez G, Taveira-DaSilva AM, Moss J. Benign metastasizing leiomyoma. *Clin Chest Med.* 2016;37(3):589-595. doi:[10.1016/j.ccm.2016.04.019](https://doi.org/10.1016/j.ccm.2016.04.019)
5. Zhang J, Peng X, Zhang Z. Clinical characteristics and diagnostic-therapeutic analysis of pulmonary benign metastasizing leiomyoma: a 10-case retrospective study and systematic review. *Am Surg.* 2026;92(3):730-739. doi:[10.1177/00031348251381654](https://doi.org/10.1177/00031348251381654)