Research Article

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Diagnostic Dilemma: Benign Pulmonary Metastasizing Uterine Leiomyoma Presenting as Unknown Origin Malignancy.

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ABSTRACT

A rare disorder known as benign metastasizing leiomyoma (BML) is characterized by many, well-defined smooth muscle cell nodules that mostly affect the lungs and other soft tissue organs. As many as 120 cases have been since Steiner's initial 1939 report. Women of reproductive age who have had a prior hysterectomy for benign leiomyoma are typically affected. The amount of time that passes between the first operation and the onset of BML varies greatly; for many, it happens years after a hysterectomy. The majority of patients receive an unplanned diagnosis following a computed tomography (CT) scan or chest radiograph performed for other purposes. These patients are frequently misdiagnosed as having cancer of unknown origin, and a delay in receiving a histological diagnosis can seriously harm the patient's psychological state. Although the best course of action is debatable, hormone modification is usually seen as the initial step. We disclose We describe a 54-year-old woman who had an earlier hysterectomy and who complained of nausea and stomach pain. Multiple lung nodules and intestinal blockage were found on the CT scan.

Keywords : Benign metastasizing leiomyoma; Leiomyoma of uterus; Carcinoma of unknown primary.

INTRODUCTION

A 54-year-old postmenopausal patient was brought in with a medical history of constipation, vomiting, and stomach pain. Eleven years ago, she underwent a hysterectomy due to benign uterine polyps. Additional medical Anxiety, depression, irritable bowel syndrome, recurring bilateral breast cysts, and benign subcutaneous lipomatosis were among the issues.

She was taking frequent citalopram for depression and did not smoke or have a history of alcohol use. She shared a home with her three kids and her spouse. The family did not have a history of cancer. Upon clinical examination, the patient had a painful epigastrium without any guarding or rigidity, and there were audible bowel movements. The systematic examination was uneventful the rest of the way. Upon arrival, the patient's chest and abdomen radiographs revealed pulmonary nodules and enlarged bowel loops that could indicate minor bowel obstruction, respectively.

A critical CT scan of the chest revealed many lung lesions that were quite likely to be metastases. A CT scan of the pelvis and abdomen revealed little intestinal blockage accompanied by multifocal aberrant thickening of the small intestine (Image1,2). Pulmonary function tests were not conducted since there were no chest symptoms. Tests for liver and kidney function, bone profile, ascitic fluid from a laparotomy, and tumor markers like CA125 and CA19.9 were among the other studies that came back normal. The absence of fever, a normal neutrophil count, and levels of C reactive protein ruled out the infection hypothesis. Auto-antibodies and negative rheumatoid factor ruled out auto-immune illness as the source of lung nodules.

The patient was directed to the acute oncology team after being advised that they may have incurable metastatic cancer. After a laparotomy to remove an intestinal obstruction, it was discovered tiny bowel loops that are enlarged and obstructed due to a ring of adhesion to the prior hysterectomy site located in the right iliac fossa. There was also a 1 cm cyst in the left ovary. There were no notable features in the remaining abdominal viscerae, and no evident major or a second intra-abdominal cancer was found. The small intestinal biopsy was not performed because there were no worrisome lesions seen.

A CT-guided biopsy of lung lesions was arranged by the acute oncology team.

It was neither diagnostic nor conclusive. A second lung biopsy was advised after her case was addressed in the multidisciplinary team conference for lung cancer (MDT). A follow-up CT-guided lung biopsy revealed no substantial inflammation or granulomata, and the results were declared as benign.

The biopsy results were shared with the patient, and it was emphasized that there could The biopsy results were discussed with the patient, who was also reminded that there was still a chance of malignancy because there was a strong radiological suspicion of malignant metastatic disease. Her family was finding it difficult to deal with the uncertainty of the situation and the challenges associated with getting a diagnosis. They were really nervous and unsure about agreeing to additional diagnostic procedures. Following several protracted discussions, she consented to an open lung biopsy, which revealed bland, fusiform cell fascicles with elongated nuclei and smooth muscle morphological characteristics. Strong expression of was confirmed by immunohistochemistry.

Actin in smooth muscle. Smooth muscle tumors were consistent with these appearances. There was no mitosis and no malignant morphology, only sporadic nuclear pleomorphism. The prior hysterectomy specimen and this histology were compared.

During the MDT conference, both histology specimens were examined and discussed. It was discovered that they resembled smooth muscle tumors in appearance, and the final histological diagnosis of benign metastatic leiomyoma was validated.

DISCUSSION

Initially reported by Steiner in 1939 [1], BML is an extremely uncommon illness in which the lungs acquire many nodules. He described a 36-year-old woman who had correlating leiomyomas in her uterus.

pulmonale caused by several metastases to the lungs. The pulmonary metastases were the same as the uterine tumors and were grossly and histologically benign at autopsy. He thought they were caused by a histologically benign uterine tumor that had migrated to the lungs.

Rarely, BML can also affect the heart, lymph nodes, mediastinum, skin, bone, and retroperitoneum [2].The majority of patients often have no symptoms, but for a small minority, symptoms such coughing, shortness of breath, and chest pain can be incapacitating and even fatal [2, 3].Leiomyoma appears to always have a historical history, and the illness is frequently identified deadly [2,3].Everybody seems to have a history of leiomyoma. It usually affects women in their late reproductive age and is detected months to up to 20 years after a hysterectomy [4].

BML is frequently discovered by accident during radiological exams like CT scans and chest radiography. The appearances, which range from a single lesion to several, provide diagnostic challenges.

lesions that resemble malignant tumor metastases to the lungs.

Lesions may cavitate, and pneumothorax may infrequently accompany this [3]. They range in size from 0.2 to 8 cm, and they typically do not calcify or enhance when intravenous contrast is used [3, 4].

Histologically, it differs from leiomyosarcomas in that it has few, if any, mitotic features. These lesions contain progesterone and estrogen receptors [5]. Despite its propensity for metastatic dissemination, the tumor has several morphological, immunohistochemical, and molecular characteristics typical of a benign neoplasm. During pregnancy and during menopause, lesions typically shrink in size [6].

At the moment of surgical excision, the nodules are believed to originate from haematogenous metastases of the primary leiomyoma [2].

Among the differential diagnosis are pulmonary sequelae of a malignant tumor, autoimmune diseases, granulomatous disorders such sarcoidosis, rheumatoid nodules, and anomalies of the arteriovenous vein [3,4]. In this case report, the patient's vasculitic screen and inflammatory markers were both normal, ruling out vasculitis and infection, respectively. Other than the worrisome pulmonary nodules, a CT scan of the chest and belly revealed no signs of a primary tumor or metastatic lesions. Negative tumor markers were found.

The results of the laproscopy showed normal ascitic fluid analysis once more. The histopathology of the lung lesions revealed no signs of granulomatous disease [7].

Because BML is so uncommon, management is customized; there is no conventional course of treatment. Hormonal manipulation and surgical excision are available treatment strategies. The latter has been effective and consists of selective oestrogen receptor modulators, progesterone, aromatase inhibitors, and gonadotropin-releasing hormone analogs [8–10].

These individuals frequently receive incorrect first diagnoses of cancer of unclear origin. Patients and their families experience severe anxiety and grief because to the poor prognosis associated with cancer of unknown etiology.

CONCLUSION

BML typically exhibits no symptoms, and imaging results reveal the lesions by coincidence. They present challenges for diagnosis, and the clinician must consider the potential of BML in the differential.

diagnosis, particularly if a hysterectomy had previously performed. It is important to let the patients and their families know about this to prevent worry, psychological trauma, and pointless inquiries.

BML is pathologically similar to parent leiomyoma in terms of histology and has a good prognosis.

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REFERENCES

1. Steiner PE. Metastasizing fibro leiomyoma of the uterus: Report of a case and review of the literature. Am J Pathol. 1939; 15:89–110.7.

2. Lim SY, Park JC, Bae JG, Kim JI, Rhee JH. Pulmonary and retroperitoneal benign metastasizing leiomyoma. Clin Exp Reprod Med. 2011; 38:174-177.

3. Fasih N1, Prasad Shanbhogue AK, Macdonald DB, Fraser-Hill MA, Papadatos D, Kielar AZ, et al. Leiomyomas beyond the uterus: unusual locations, rare manifestations. RadioGraphics. 2008; 28: 1931-48.

4. Caminati A, Cavazza A, Mirenda MR, Harari S. A 69-year-oldfemale with multiple, bilateral pulmonary nodules. Eur Respir Rev.2011; 20: 56-59.

5. Jautzke G, Muller-Ruchholtz E, Thalmann U. Immunohistological detection of estrogen and progesterone receptors in multiple and well differentiated leiomyomatous lung tumors in women with uterine leiomyomas. Pathol Res Pract. 1996; 192: 215–223.

6. Horstmann JP, Pietra GG, Harman JA, Cole NG, Grinspan S. Spontaneous regression of pulmonary leiomyomas during pregnancy. Cancer. 1977; 39: 314–321.

7. Hague WM, Abdulwahid NA, Jacobs HS, Craft I. Use of LHRH analogue to obtain reversible castration in a patient with benign metastasizing leiomyoma. Br J ObstetGynaecol. 1986; 93: 455-60.

8. Cohen JD, Robins HI. Response of "benign" metastasizing leiomyoma to progestin withdrawal. Case report. Eur J Gynaecol Oncol. 1993; 14: 44-5.

9. Wentling GK, Sevin BU, Geiger XJ, Bridges MD. Benign metastasizing leiomyoma responsive to megestrol: case report and review of the literature. Int J Gynecol Cancer. 2005; 15: 1213-7.

10. Taveira-DaSilva AM, Alford CE, Levens ED, Kotz HL, Moss J. Favorable response to antigonadal therapy for a benign metastasizing leiomyoma. Obstet Gynecol. 2012; 119: 438-442.