

Uterine leiomyosarcoma metastasis to the breast

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Summary

Background: Uterine leiomyosarcoma is a rare female neoplasm with a high recurrent and metastatic rate. However, only a few cases have been reported on metastasis to the breast. The purpose of this work is to stress the role of follow-up and to increase physicians' awareness of such lesion. **Case:** A 62-year-old female suffered from a breast nodule and multiple metastases six years after resection for uterine leiomyosarcoma. Pathology revealed a rare condition of uterine leiomyosarcoma with breast metastasis. **Conclusion:** The case highlights the important role of long-term follow-up in uterine leiomyosarcoma and implies the necessity of tissue proof in patients with the disease.

Key words: Uterine leiomyosarcoma; Breast tumor; Metastasis.

Introduction

Excluding the cases from contralateral breast carcinomas, metastatic breast cancers from extra-mammary malignancies are rare, especially from sarcoma [1, 2]. Uterine leiomyosarcoma is a rare female neoplasm which accounts for about 25-36% of uterine sarcomas and 1% of all uterine malignancies [3]. It demonstrates a poor prognosis with a high recurrent and metastatic rate [3, 4]. In a review of the literature, however, only a few cases of uterine leiomyosarcoma have been reported on metastasis to the breast [2, 6, 7]. We report the case of a patient with a breast tumor which metastasized from uterine leiomyosarcoma six years after resection of the uterus. The purpose of this work is to highlight the role of long-term follow-up in uterine leiomyosarcoma cases and to increase physicians' awareness of patients with the disease.

Case Report

A 62-year-old gravida 3, para 2 female with a history of uterine leiomyosarcoma after total hysterectomy and bilateral salpingo-oophorectomy six years before was transferred to our hospital due to a prolonged cough and poor appetite in November 2002. A non-tender, movable, soft-tissue nodule over the upper-middle area of the left breast was found on physical examination. Ultrasonic scan of the breast revealed a solid homogeneous nodule (Figure 1). Mammography showed only a cluster of microcalcifications in the lesion. Other image studies showed multiple lung, liver, and bone metastases. Fine-needle aspiration of the breast was performed but failed to make a clear diagnosis.

Excisional biopsy of the breast nodule was done and the tumor exhibited a well encapsulated mass surrounded by adipose tissue. The pathology report demonstrated a spindle-shape tumor with positive results of smooth muscle actin and

desmin staining, which were comparable with the previous uterine leiomyosarcoma. Furthermore, cytology studies of liver and bronchoscopic brushing also supported the metastatic lesions. Under the diagnosis of uterine leiomyosarcoma with multiple metastases, the patient received four courses of chemotherapy with ifosfamide (1 gm/m² for 5 days), etoposide (80 mg/m² for 5 days), and carboplatin (200 mg/m² for 2 days). Stable disease was achieved after chemotherapy, but she was lost to follow-up later. Progression of disease was noted in October 2003. She received hospice care and died in May 2004 due to multiple organ failure.

Discussion

Although breast cancer is one in most common tumors in women, metastatic involvement of the breast from extra-mammary malignancies is rare [1-2]. An accurate diagnosis of metastatic breast cancer from a primary cancer is important for optimum treatment; nonetheless, metastatic lesions are not easily distinguished due to the

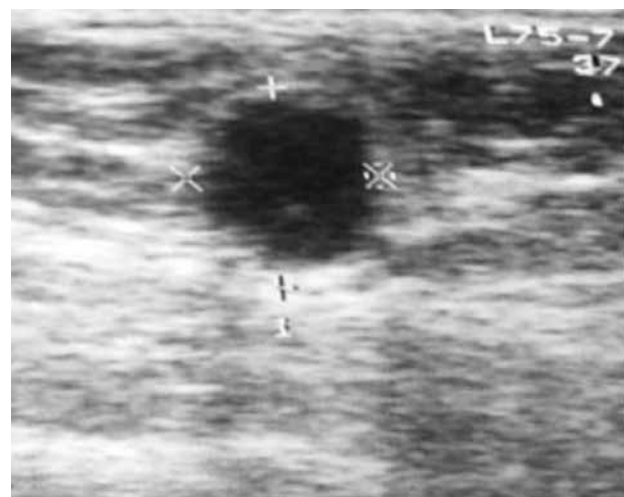


Figure 1. — Ultrasound scan of the breast nodule revealed a homogeneous hypoechoic nodule 2 x 2 cm in size.

Revised manuscript accepted for publication July 30, 2007

Table 1. — Clinical features of cases with breast tumor metastasized from uterine leiomyosarcoma.

References	Age	Location/ Size	Ultrasound findings	Calcification	Other lesions	Time from primary diagnosis	Diagnosis of breast metastasis	Therapy	Follow-up
Ref. 2	40	UNK, 4 cm	Ill-defined	UNK	UNK	18 months	Fine needle aspiration	UNK	UNK
Ref. 6	44	Bilateral, 0.95 x 0.7 3 cm	Well-defined, homogeneous, hypoechoic	No	Lung, liver, intestine	12 years	Excisional biopsy	Tumor excision	12 months
Ref. 7	60	Right, 0.8 cm	Well-circum- scribed	No	Subcutaneous	10 years	Fine needle aspiration	UNK	UNK
Current case	63	Left, 2 x 2 cm	Well-defined, homogeneous, hypoechoic	Micro	Lung, liver, bone	6 years	Excisional biopsy	Chemo- therapy	18 months (expired)

UNK: unknown.

wide spectrum of presentations [1]. Therefore, a clear history and a comparable histological picture, like our case, help in the final diagnosis of a metastatic tumor to the breast.

Uterine leiomyosarcoma is a rare female neoplasm with a poor prognosis and a high potential to metastasis [3, 4]. However, the most frequent sites of distant metastasis from uterine leiomyosarcoma are the lung, kidney, and liver. Only a few cases with breast metastasis have been reported. Including this case, a total of four cases with uterine leiomyosarcoma metastasis to the breast have been reported (Table 1) [2, 6, 7]. Most of them revealed a homogeneous nodule with none or microcalcification in the ultrasonic study. The characteristics of these patients are long duration from the initial diagnosis to metastasis (ranging from 18 months to 12 years) and older age (ranging from 40 to 62 years old). These results may be associated with characteristics of uterine leiomyosarcoma which is a rare malignancy with slow progression and strong metastatic potential, even many years after hysterectomy [3-5].

The optimal therapy and the outcome of breast tumor metastasis from uterine leiomyosarcoma are still uncertain due to the limited cases. Nonetheless, the prognosis of uterine leiomyosarcoma is poor without effective treatment in advanced stage [3, 4]. As in our patient, the breast metastasis was one of the presentations of multiple metastases and the advanced disease eventually led to the poor outcome. However, the case highlights the impor-

tant role of long-term follow-up in uterine leiomyosarcoma cases. It also implies the necessity of good tissue proof from the breast in such patients.

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