

## Tumor to Tumor Metastasis of Lobular Breast Carcinoma to Uterine Lipoleiomyoma: A Rare Case with Two Unusual Pathologies

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**Abstract:** Tumor to tumor metastasis is a unusual phenomenon. Metastasis of lobular breast carcinoma to the rare benign tumor lipoleiomyoma is an uncommon occurrence. Only one case has been documented in the reviewed literature. Here we present a 40 years old female patient with past history of invasive lobular carcinoma of right breast. The patient came 3 years after mastectomy with abnormal uterine bleeding and abdominal discomfort. Hysterectomy was done and three fibroids were identified of which the smaller two showed features of leiomyoma. The largest fibroid showed histological features of lipoleiomyoma infiltrated by metastatic lobular carcinoma of breast. In patients with advanced lobular carcinoma of breast and suspicious gynecological symptoms, the possibility of uterine metastasis should be included in the postoperative planning. This case is being reported because of its rarity involving two very unusual pathologies.

**Keywords:** Breast, Carcinoma, Lobular, Lipoleiomyoma, Metastasis

### INTRODUCTION

Tumor to tumor metastasis is an uncommon phenomenon. A few cases of metastasis of lobular breast carcinoma to uterine leiomyoma have been reported. Uterine lipoleiomyoma itself is a rare benign tumor. Metastasis of lobular carcinoma of breast to this tumor is extremely rare with only one documented case report in literature. This case is being reported because of its rarity involving two very unusual pathologies.

### CASE REPORT

A 40 years old female presented with irregular and excessive vaginal bleeding associated with abdominal discomfort. Ultrasonography was suggestive of uterine fibroid.

The patient underwent total abdominal hysterectomy and the specimen was sent for histopathology. On gross examination the specimen consisted of uterus with bilateral adnexae, an intramural fibroid and two separate fibroids (Fig. 1). The larger fibroid measuring 11 cms in diameter, histopathologically showed spindle shaped cells with blunt ended nuclei arranged in interlacing fascicles admixed with mature adipose tissue and areas of infiltrating polygonal to oval, relatively uniform cells in small poorly cohesive clusters, Indian files and singly (Fig. 2). These cells were small to medium sized with vesicular nuclei and moderate amount eosinophilic to

clear cytoplasm with occasional mitosis and absence of necrosis. Smaller fibroids showed features of leiomyoma. Endometrium, cervix and both the ovaries and fallopian tubes showed no significant pathology.

On detailed history, the patient had a painless lump in right breast 3 years back. FNAC was done and the patient underwent modified radical mastectomy with axillary clearance. She received tamoxifen treatment for 2 years and external beam radiotherapy (EBRT) following mastectomy.

The patients' clinical history was uneventful postoperatively for 3 years till she presented with gynecological symptoms.

The previous FNAC and histopathology slides of the breast lump were reviewed in our department. The FNAC smears were suggestive of lobular carcinoma. Histopathology slides showed histological features of infiltrating lobular carcinoma (Grade III) with infiltration of nipple and areola. 3 out of 9 lymph nodes identified showed metastasis. The FNAC and histological findings were similar to previous reports.

Correlating the past history, FNAC and histopathological features of the breast lump with the present symptoms, ultrasonography and histopathology

of uterine fibroid; the final diagnosis was metastasis of lobular breast carcinoma to uterine lipoleiomyoma.

Following hysterectomy the patient is being treated with anastrozole and capecitabine and is asymptomatic in the 6 months follow up period.



Fig. 1: Gross appearance of uterus with adnexae showing an intramural fibroid and two separate fibroids

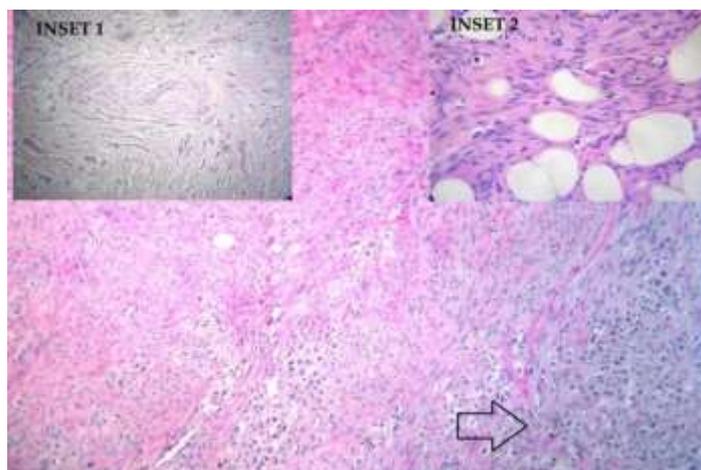


Fig. 2: Infiltration of lipoleiomyoma by cells of lobular breast carcinoma (marked by arrow head) (Haematoxylin & Eosin stain; Low power); Inset 1: Histopathology of breast lump. Lobular breast carcinoma showing small to medium uniform cells in Indian file and concentric patterns in a dense fibrous stroma (H & E stain; High power); Inset 2: Histopathology of lipoleiomyoma (H & E stain; High power)

## DISCUSSION

Tumor to tumor metastasis are uncommon, first documented by Campbell *et al.* in 1968 [1]. Since then only about 150 cases have been documented in international English language literature [2].

According to Campbell *et al.* [1] the documentation of tumor to tumor metastasis must fulfill following criteria:

- more than 1 primary tumor must exist;
- The recipient tumor is a true benign or malignant neoplasm;
- The metastatic neoplasm is a true metastasis with established growth in the host tumor, not the result of contiguous growth (collision tumor) or embolization of tumor cells;

- Tumors that have metastasized to the lymphatic system, where lymphoreticular malignant tumors already exist, are excluded.

In our patient all these criteria were fulfilled. There were two primary tumors- lobular carcinoma of breast and lipoleiomyoma of uterus. The recipient tumor is a true benign neoplasm and the metastasis is a true metastasis from a distant malignant tumor.

The most frequent donor tumor is lung cancer while renal cell carcinoma is by far the most common recipient [3].

Metastasis of extragenital neoplasm to uterus is unusual. Breast carcinomas of lobular type are most likely to spread to this site [4, 5]. Secondary location in

the uterus can occur many years after the diagnosis and treatment of primary cancer of the breast [6]. In our patient specific symptoms appeared 3 years after treatment of primary breast carcinoma.

A few rare cases of metastasis of lobular breast carcinoma to uterine leiomyoma have been reported in the literature [5, 7, 8]. The patients usually presents with abnormal uterine bleeding and abdominal discomfort as in our case or with rapidly growing fibroid [7]. Therefore, in patients presenting with suspicious gynecological symptoms and a history of advanced lobular carcinoma of breast, the possibility of uterine metastasis should be considered. Palliative hysterectomy can potentially improve prognosis in patients whose cancer is restricted to uterine leiomyoma with or without lymph node involvement [7].

Uterine lipoleiomyoma or leiomyolipoma is a rare benign tumor. It contains an intimate admixture of adipose tissue and smooth muscle and is mitotically inactive. It is believed that some of these tumors result from adipose metaplasia of leiomyoma [9]. Metastasis to liopleiomyoma from breast carcinoma is extremely rare. Only one similar case was found reported by Uner A. et al (2003) in our review of international literature [10].

#### **CONCLUSION**

In patients with advanced lobular carcinoma of breast and suspicious gynecological symptoms the possibility of uterine metastasis should be included in the postoperative planning.

This case is being reported because of its rarity involving two very unusual pathologies.

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