CASE REPORT

# Endometrial Carcinoma Metastatic to the Clitoris: A Case Report and Review of the Literature

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**Abstract-** Endometrial cancer generally carries a good prognosis. Endometrial carcinoma more frequently metastasizes to the pelvic and para-aortic nodes. Visceral metastases usually occur in the vagina and ovaries. Distant metastases involve lungs and occur as a terminal event. This case report describes vulvalar metastasis of endometrial cancer to the clitoris. Metastatic tumors of the vulva are rare. Moreover, in the presence of metastatic endometrial carcinoma to the vulva, it is necessary to verify if other visceral metastases are present. Endometrial cancer can extend through direct dermatogens and lymphatic spread. We report a clitoral metastasis of an endometrial carcinoma and discuss whether the possible mechanism is vascular spreading or direct seeding.



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**Keywords:** Clitoris; Endometrial carcinoma; Metastasis; Treatment; Vulva

## Introduction

Primary cancer of the vulva is uncommon, accounting for only 3-5% of all gynecologic malignancies and <1% of all cancers in women. Metastatic tumors of the vulva are even more unusual, representing only 5-8% of all vulvar cancers (1-3).

Endometrial carcinoma is the most common gynecologic malignancy in the United States (4). The prognosis is generally good because of the large number of patients with disease confined to the uterus (5).

The clitoris may be the primary site of the neoplasm or that of a tumor metastasizing from different human organs (6). Metastatic clitoral tumors, originating from rectal (7), stomach (8), and bladder carcinomas (9), have been documented in the literature.

This case report describes vulvar metastasis of endometrial cancer to the clitoris, which is an unexpected and extremely rare site for metastasis.

## Case Report

A 52-year-old woman is presented with clitoromegally 18 months after undergoing a total abdominal hysterectomy, bilateral salpingo-oophorectomy pelvic and para-aortic lymph node sampling, and vaginal cuff radiation for a stage $I_B$ poorly differential adenocarcinoma. She admitted to our clinic with an undefined tumoral lesion located on her clitoris (Figures 1 and 2). This lesion presented 4×2 cm exophytic engorged tender clitoris mass. Pre-operative investigations revealed a normal hemoglobin level of 11/5 g/dl, normal white cell and platelet counts and normal liver function tests. An abdomen pelvic CT scan showed no adenopathy in para-aortic area and no pelvic and abdominal mass lesion. Chest x-ray was normal. The patient was admitted and underwent a wide local resection of clitoris and histological examination confirmed an adenocarcinoma of clitoris that metastases of endometrial carcinoma. Post operative adjuvant treatment included external beam radiation (4500 CGs) to the pelvic and (1280 CGs) to the vulva and groin. No further treatment was recommended. The patient's disease recurred 10 months after her clitorectomy. She refused any treatment and died of disseminated metastatic lesions, 8 months later.

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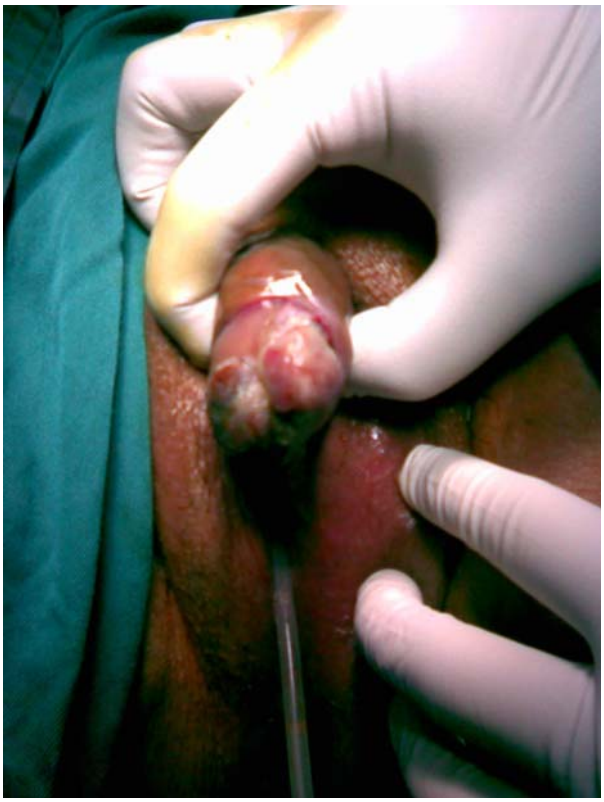

**Figure 1.** Pathologic appearance of the tumor.

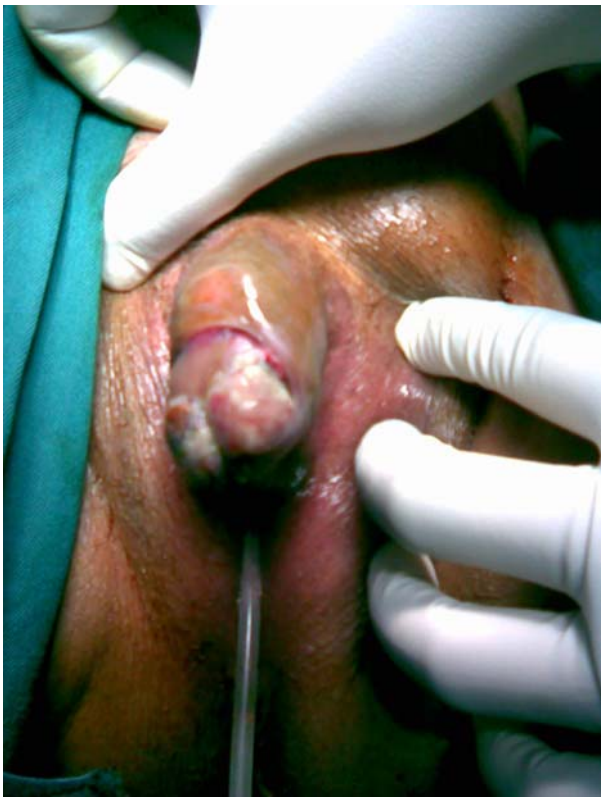

**Figure 2.** Pathologic appearance of the tumor.

## Discussion

As part of the female genital tract, the vulva is probably the least frequency site for secondary tumors (10). Clitoral metastases are exceptionally rare, with few cases having been reported in the literature.

Skeletal metastases to the 4$^{th}$ toe and recurrent cerebral metastases treated successfully with stereotactic radiosurgery and chemotherapy have been reported. Pulmonary metastasis is relatively common and vaginal recurrences are not unknown. However a search of the literature using Medline, pubmed and the Cochrane Database only a few cases of vulvar metastases in endometrial cancer (11).

We report a case of an endometrial carcinoma of the uterus, which presented 18 months after total abdominal hysterectomy and bilateral salpingo-oophorectomy, as clitoromegally due to a clitoral metastasis. Endometrial carcinomas extend through direct spread, hematogenous spread, and lymphatic spread (11). This case showed no evidence of direct extra-uterine spread through the myometrium on clinical examination or CT scan and clinical examination excluded vaginal spread. It is therefore very likely that the clitoral metastasis was a result of hematogenous spread. Lymphatic spread can be possible after extensive radical pelvic surgery or radiation therapy by retrograde spread to the vulvar lymphatic which occurred because of the newly formed lymphatic stasis.

We believe that both of the theories may be true changing according to the situation. Other adenocarcinomas with metastasis to the vulva can be differentiated from metastatic endometrial carcinoma by the clinical history, revealing the previous primary neoplasm, and by specific immunohistochemical studies (12).

A study reported on epigenetic p$^{16}$INK4A inactivation (by promoter methylation) in vascular carcinomas displaying cyclin D1 over-expression. This phenomenon was also observed in various type of female genital tumor, for example, in endometrial carcinoma the immunohistochemical assessment of various cell cycle associate molecules yield, clues to their possible function during the process of spread of rare primary neoplasm originally from the clitoris. In our case, the metastatic endometrial carcinoma, located on clitoris as a engorged mass (6).

36 months after the diagnosis of primary endometrial carcinoma, the patient died of disseminated metastatic lesions. In conclusion, recurrent endometrial carcinoma at the vulva was treated surgically in a similar manner to

the treatment of a primary vulvar malignancy. Moreover, where there is a metastatic endometrial carcinoma of the clitoris is often a preterminal occurrence, that both our case and the other cases rare in the literature that the appearance of vulvar lesion. In conclusion, we report a clitoral metastasis of an endometrial carcinoma and discuss whether the possible mechanism is vascular spreading or direct seeding.

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