ONLINE EXCLUSIVE

# Persistent erythematous papulonodular rash

The rash on our patient's abdomen was not itchy or painful, but it had persisted for more than a year and continued to spread. A biopsy confirmed our suspicions.

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**AN 80-YEAR-OLD WHITE WOMAN** presented to our dermatology clinic with a rash across her abdomen that had been there for more than a year. While not itchy or painful, the rash was slowly expanding. The patient had tried treatments including topical antifungals and topical corticosteroids, but none had helped.

Her medical history was significant for dementia and stage III triple-negative breast cancer in the left breast (diagnosed 8 years prior), which was treated with a simple left mastectomy, chemotherapy, and radiation. She reported no history of skin cancer. She was not taking any medications and had no known drug allergies. A physical examination revealed an erythematous, papulonodular rash with diffuse induration in a band-like pattern across her entire upper abdomen and left flank (**FIGURE**).

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

**FIGURE**
## Persistent, asymptomatic rash

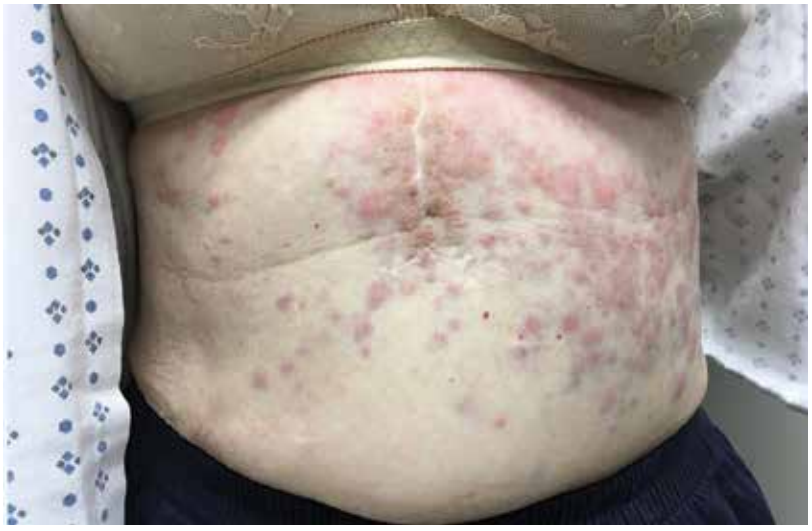

IMAGE COURTESY OF JACQUELINE NICOLE FLANDRY, MD, RIVERSIDE DERMATOLOGY & AESTHETIC CENTER

Our patient had an erythematous, papulonodular rash with diffuse induration across her upper abdomen and left flank for more than a year.

## Diagnosis: Cutaneous metastasis of primary breast cancer

Based on our patient's history, we gave a presumptive diagnosis of cutaneous breast cancer metastasis. A punch biopsy was performed. The pathology report showed nests of neoplastic cells within the dermis, which was consistent with this diagnosis. Immunohistochemical stains and fluorescence in-situ hybridization confirmed triple-negative breast markers for estrogen receptor, progesterone receptor, and human epidermal growth factor receptor-2.

### An uncommon phenomenon seen mostly with breast cancer

Cutaneous metastatic carcinoma is relatively uncommon; one meta-analysis reported the overall incidence to be 5.3%.[1] While it is unusual, any internal malignancy can metastasize to the skin. In women, the most common malignancy to do so is breast cancer. One study found breast cancer to be associated with 26.5% of cutaneous metastatic cases.[2] These metastases often occur well after the patient has been treated for the primary malignancy.

**Identifying features.** Most cutaneous metastases occur near the site of the primary tumor, initially in the form of a firm, mobile, nonpainful nodule.[3] This nodule is typically skin-colored or red, but in the case of cutaneous metastases of melanomas, it can appear blue or black. In the case of breast cancer, the lesions most often arise on the chest and abdomen.[4] Occasionally, metastases can ulcerate through the skin.

Some forms of cutaneous metastasis, such as carcinoma erysipeloides, can appear in specific patterns. Carcinoma erysipeloides has a similar appearance to cellulitis; it manifests as a sharply demarcated, red, inflammatory patch in the skin adjacent to the primary tumor.

### Consider the clinical picture

Cutaneous metastatic lesions have a wide range of differential diagnoses due to their varied appearances. It is important to view the overall clinical picture when distinguishing such lesions. Although cutaneous metastasis is uncommon, it should always be considered when asymptomatic skin lesions resist treatment—even in someone without a known history of malignancy.

**Perform a biopsy.** The diagnosis can be confirmed with a skin biopsy. A punch biopsy is preferable, as visualization of the dermis is crucial, and histology often reveals nests of pleomorphic cells. Further cellular cytology can elicit the primary malignancy of origin.

### Making our diagnosis

We ruled out several possibilities before arriving at our diagnosis. An infectious etiology (eg, cutaneous candidiasis) was considered, as was a cutaneous change due to radiation therapy. We also considered shingles, the early stages of which would have been similar in appearance to our patient's lesions, and urticaria, which can manifest as erythematous papules and wheals across various parts of the body. A lack of specific symptoms (eg, pruritis, pain, fever) made these alternative diagnoses less likely. The fact that our patient's lesions persisted for more than a year without any response to treatment—and that they continued to grow—alerted us of a more sinister etiology.

### Treating the tumor is often not possible

Treatment first involves treating the underlying tumor. For cases in which cutaneous lesions are the first manifestation of an internal malignancy, investigation as to the source should be performed. The lesions can then be treated with a combination of chemotherapy, radiation, and surgery.[5,6]

Unfortunately, in most cases of cutaneous metastases, the primary malignancy is already widespread and possibly untreatable. In such instances, palliative care is offered. Lesions are managed symptomatically, and prevention of skin irritation becomes the primary focus. Keeping the skin clean and dry helps to prevent ulceration and secondary infection.

In cases where the lesions ulcerate or crust, debridement can help. Excision of lesions, as well as pairing laser therapy with electrochemotherapy, may be helpful to improve the patient's quality of life when lesions cause discomfort.

**The prognosis** for cutaneous metastasis due to breast cancer is often hard to predict

**Although cutaneous metastasis is uncommon, it should always be considered when asymptomatic skin lesions resist treatment—even when there is no known history of malignancy.**

because it is determined by other factors, such as the presence of internal metastases, which indicates a worse prognosis (on the scale of months). Some case reports have demonstrated that patients with metastases limited to the skin may have prolonged survival (on the scale of years).[7]

**Our patient** was offered an initial trial of radiation therapy, but she refused all treatment because the lesions did not cause discomfort, and she preferred to not go through further aggressive cancer treatment that could potentially cause complications and pain. We respected the patient's wishes and counseled her on follow-up if the lesions became symptomatic or she decided she wanted to try treatment. JFP

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