



A Unique Cutaneous Presentation of Breast Cancer: A Red Apple Stuck in the Breast

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Dear Editor:

Cutaneous involvement of breast cancer is an uncommon occurrence for a dermatologist although breast cancer is the most common source of cutaneous metastasis in women. It can occur through direct extension of the tumor, metastasis via lymphatics or blood vessels, and, rarely, through iatrogenic implantation.

A 43-year-old woman presented with an erythematous large protruding mass (6×5×6 cm) with bloody discharge and crusting on the left anterior chest (Fig. 1A, B). The patient reported that the skin-colored firm mass had appeared 1 year prior to the visit. The size of the mass enlarged gradually over time, with a color change during the last 3 months.

A skin biopsy was performed under a clinical impression of the mass possibly being a dermatofibrosarcoma protuberans. The histological findings showed infiltration of the tumor cells forming nests and duct-like structures, while sparing the epidermis (Fig. 1C). The tumor cells were large and polymorphic with hyperchromatic nuclei, and were positive for estrogen and progesterone receptors (Fig. 1D~F). The patient was finally diagnosed with invasive ductal carcinoma of the breast.

A bulging mass in the left breast was detected with skin involvement and left axillary lymph node metastasis on magnetic resonance imaging. Sternal metastases were found on positron emission tomography-computed tomography. The patient was treated with palliative modified

radical mastectomy, postoperative chemotherapy, and radiotherapy.

The incidence of cutaneous involvement in patients with cancer is estimated to be 0.6% to 10.4%¹. In women, breast cancer is the most frequent primary malignancy involving the skin. A large study reported that cutaneous involvement occurs in 23.9% of patients with breast cancer. In addition, in 14.3% of breast cancer with skin involvement, there was direct extension of the tumor to the skin². Direct invasion of the skin from a deeper tumor usually causes dermal or subcutaneous nodules with tumid ulceration or inflammation, but may present in less obvious ways: dermal infiltration causing sclerosis (carcinoma en cuirasse), vascular changes (carcinoma telangiectodes), a peaud'orange appearance, and more rarely a carcinoma erysipeloides (inflammatory breast carcinoma) pattern³. In the present case, the patient exhibited a huge protruding mass resembling dermatofibrosarcoma protuberans rather than breast cancer, located on the anterior chest, while sparing the breast tissue. Unfortunately, the diagnosis of breast cancer was delayed because of its uncommon clinical presentation.

Tumors directly extending to the chest wall and/or to the skin in the form of ulcers or nodules are classified as T4 category tumors per the TNM classification regardless of size. This is usually associated with an advanced stage of the disease and in most cases, is a sign of a poor prognosis⁴. Our patient had a pT4a category tumor because of

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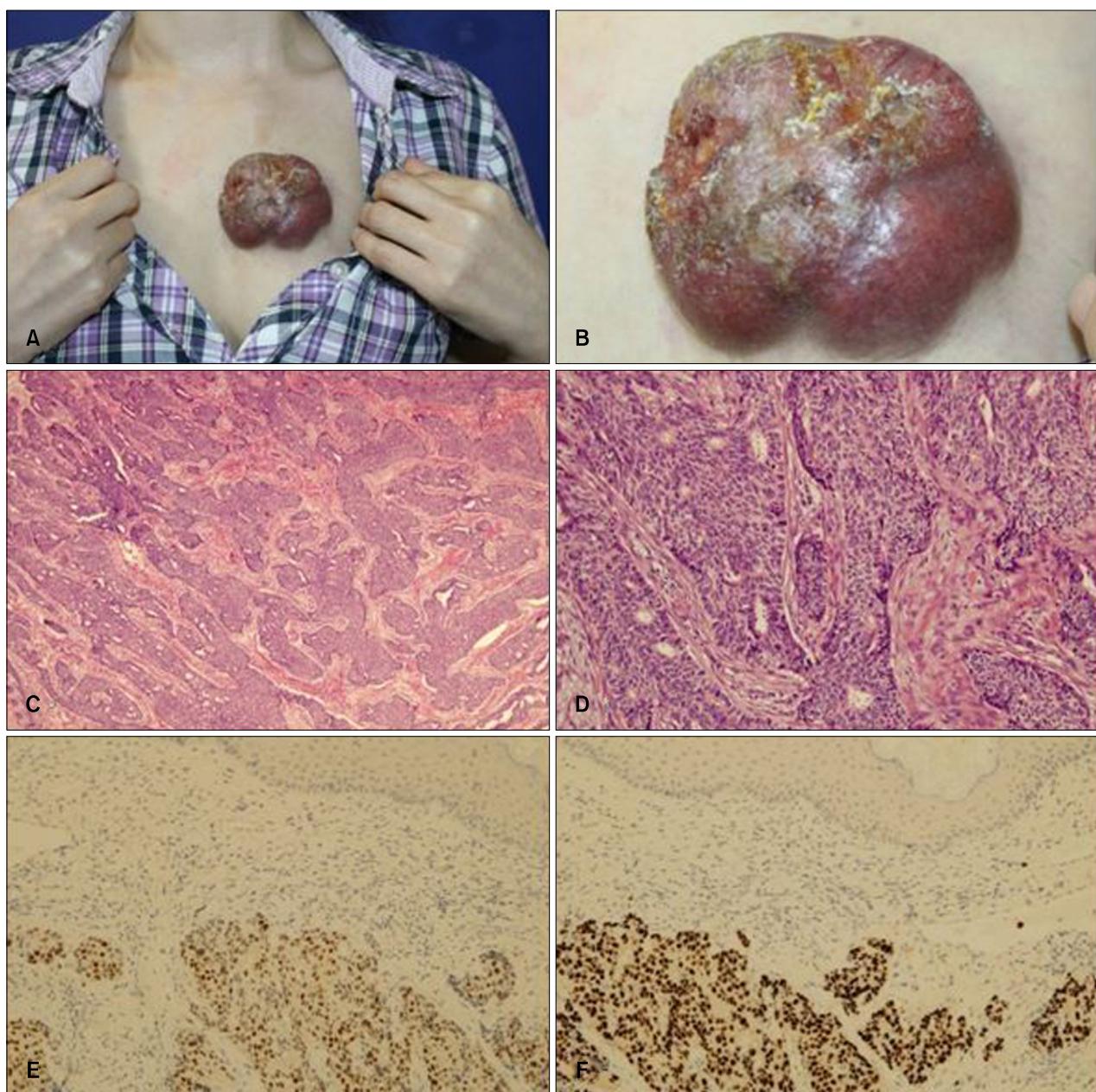


Fig. 1. Clinical and histopathological appearances. (A, B) Solitary well-defined erythematous firm mass on left anterior chest and its magnified image. (C, D) Histopathologic features of a mass on the left anterior chest. Tumor cells with necrosis and mitotic figures were shown with ductal differentiation in dermis (H&E; C: $\times 40$, D: $\times 400$). (E, F) Immunohistochemical stainings for estrogen receptor (E, $\times 100$) and progesterone receptor (F, $\times 100$) were positive in tumor cells.

extension to the chest wall, including pectoralis muscle invasion, indicating a stage higher than IIIB regardless of node or distant metastasis.

Through the present case, dermatologists should become aware of the diverse manifestations of cutaneous involvement of breast cancer. Early detection of cutaneous involvement provides a window of opportunity for a timely diagnosis and treatment of the primary tumor.

REFERENCES

1. Alcaraz I, Cerroni L, Rütten A, Kutzner H, Requena L. Cutaneous metastases from internal malignancies: a clinicopathologic and immunohistochemical review. *Am J Dermatopathol* 2012;34:347-393.
2. Lookingbill DP, Spangler N, Sexton FM. Skin involvement as the presenting sign of internal carcinoma. A retrospective study of 7316 cancer patients. *J Am Acad Dermatol*

1990;22:19-26.

3. Kalymykov B, Walker S. Cutaneous metastases in breast cancer. Clin J Oncol Nurs 2011;15:99-101.

4. Krathen RA, Orengo IF, Rosen T. Cutaneous metastasis: a meta-analysis of data. South Med J 2003;96:164-167.

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Transepidermal Elimination of Gold Metals after Face-Lifting Acupuncture

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Dear Editor:

Numerous interventions are offered for skin rejuvenation and anti-skin aging including treatments for facial wrinkles, facial muscle tone, and elasticity¹. Recently, the use of acupuncture for cosmetic purposes has gained popularity worldwide and it has been introduced as an intervention for skin rejuvenation^{2,3}. Although certain amount of previous reports on efficacy are reported, its safety is not yet proved.

A 54-year-old woman presented with tiny multiple erythematous papules with whitish pus on the face (Fig. 1A). She received procedure of face-lifting acupuncture using gold metals a year ago for skin rejuvenation. We performed biopsy from the right cheek and histologic findings showed an epidermal cyst with inflammatory cells infiltration (Fig. 2A). During the procedure of biopsy, a piece of gold metal was collected along with the specimen. She claimed several gold metals had expulsed out sponta-

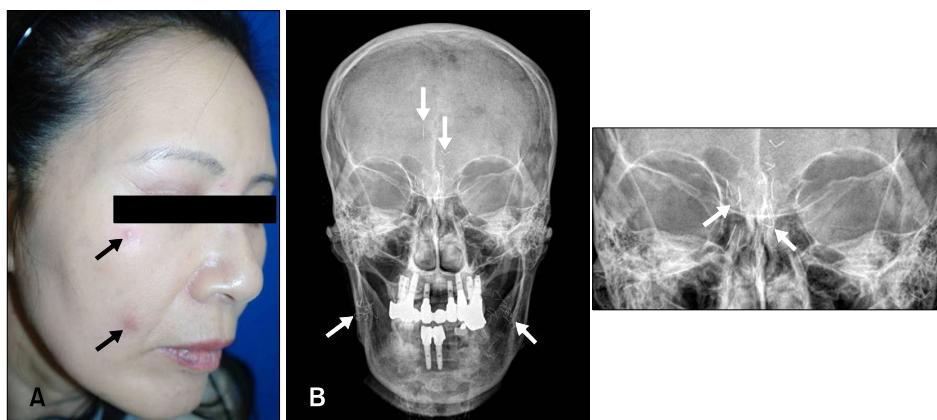


Fig. 1. (A) Asymptomatic multiple erythematous papules and plaques on the face with discharge (arrows). (B) Grouped multiple metal pieces are detected on the radiologic findings (arrows).

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