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Bullous Annular Erythema as a Cutaneous Sign of Vaginal Stump Adenocarcinoma

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Dear Editor:

A 76-year-old Korean woman presented with a 5-day history of asymptomatic, slightly expanding cutaneous lesions. She had hypertension, diabetes mellitus, and a history of total hysterectomy. Physical examination revealed bullous annular reddish patches on the abdomen and right thigh (Fig. 1A, B). Interestingly, each patch had a tiny ring-shaped black macule at its center (Fig. 1A, B *inset*). Histopathological analysis revealed intraepidermal blister, diffuse dyskeratosis, and karyopyknosis in the epidermis (Fig. 2A, B). Also, dense perivascular lymphocytic infiltrates presented in the upper dermis (Fig. 2C). Several days after, she was diagnosed with vaginal stump adenocarcinoma with multiple metastases including lung, liver, urinary bladder, and abdominal wall. The vaginal tumor was completely removed and then the cutaneous lesions spontaneously disappeared. Therefore, we suspected these lesions might be associated with her primary tumor. Till now, she has received supportive treatments without recurrence of skin lesions.

Paraneoplastic dermatoses are the signs of internal malignancy[1]. There are various types of paraneoplastic dermatoses including annular erythema. Annular erythema described in the context of malignancy is usually erythema annulare centrifugum (EAC) or erythema gyratum repens. EAC appears as multiple polycyclic lesions simulating urticarial papules that enlarge centrifugally. Some reports of malignancy-associated EAC have been presented. According to the reports, EAC is related with solid and hematologic malignancies such as breast cancer, leukemia, and lymphoma[2,3]. Histopathologically, it is characterized by perivascular tightly cuffed 'coat-sleeve-like' lymphohistiocytic infiltrates. Occasionally, focal epidermal spongiosis and parakeratosis may be founded. Erythema gyratum repens is the annular erythema most consistently associated with cancer. It is characterized by multiple concentric, erythematous, scaly bands and migrates over the skin, leaving a 'wood grain' appearance. The histopathological findings are non-specific. Both dermatoses commonly improve or resolve after successful treatment of the underlying illness.

The pathogenesis of paraneoplastic dermatoses is not understood. However, because of frequent improvement upon treatment of the tumor, underlying malignancy is thought to play a role. Recent literatures suggest paraneoplastic dermatoses are the result of interaction between the tumor, involved tissue, and some mediators such as polypeptides, hormones, cytokines, antibodies and growth

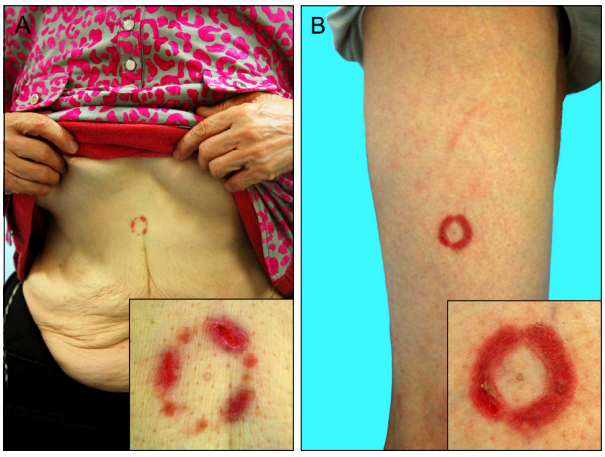

Fig. 1. (A, B) Multiple bullous annular reddish patches on the center of the abdomen and anterolateral aspect of the right thigh. The patches have bullous rims and central tiny ring-shaped black macules (*inset*).

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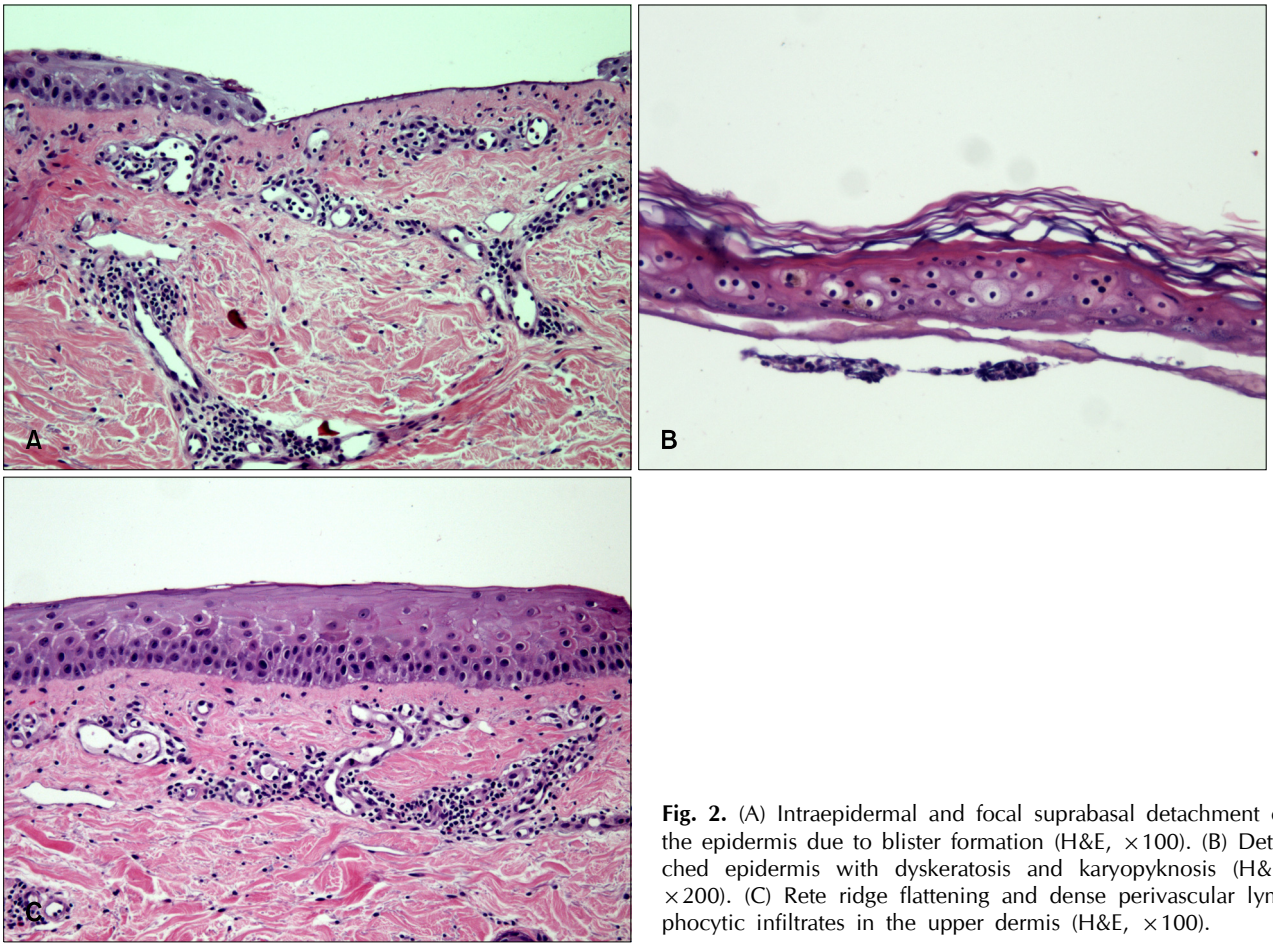

Fig. 2. (A) Intraepidermal and focal suprabasal detachment of the epidermis due to blister formation (H&E, ×100). (B) Detached epidermis with dyskeratosis and karyopyknosis (H&E, ×200). (C) Rete ridge flattening and dense perivascular lymphocytic infiltrates in the upper dermis (H&E, ×100).

factors[4,5]. These factors interfere with cell to cell communication, resulting in an increase of cellular activity. Interestingly, paraneoplastic dermatoses often disappear in the terminal stage of malignancy. This is purported by immune compromise due to the progression of the tumor.

In our current report, despite the presence of dense perivascular lymphocytic infiltrates, other histological and clinical findings were not consistent with EAC. In addition, they also were not consistent with other dermatoses including erythema gyratum repens. Considering the clinical course of the lesions, the erythema might be associated with the patient's internal malignancy. However, despite the remaining metastatic tumors, the skin lesions completely resolved. It is thought that the remission was induced by the patient's immune-compromised condition rather than removal of the primary tumor.

Therefore, we herein report that this unique annular erythema may be an atypical type of EAC or a new kind of paraneoplastic dermatoses. Thus, in cases of unusual annular erythema, dermatologists should consider evaluation of internal malignancy.

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