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LETTER TO THE EDITOR

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A case of papuloerythroderma secondary to crusted scabies

Dear Editor,

Papuloerythroderma is a rare skin condition firstly documented in 1984 by Ofuji.[1] It is characterized by erythroderma with pruritic papules that spares the skin folds, shaping the so-called "deck-chair sign (DCS)."[2] Papuloerythroderma of Ofuji (PEO) is defined as an idiopathic condition, while similar skin rash induced by concomitant medications or underlying comorbidities is called "secondary papuloerythroderma."[3] Although crusted scabies is sometimes accompanied by erythroderma, papuloerythroderma is not commonly observed. Herein, we report a case of papuloerythroderma associated with scabies.

An 80-year-old Japanese woman complained of generalized pruritus. Her past medical history included squamous cell carcinoma in her genital region under control with radiation therapy and right renal calculus removed by nephrectomy, but no allergic conditions. Computed tomography scanning of her whole body did not detect any other signs of visceral malignancy. She had widespread erythematous top-flatted papules on her trunk, which spared the skin folds and creases (Figure 1A,B). Her palms and soles were hyperkeratotic and covered with thick scale and crust. Laboratory tests revealed eosinophil count of 5100/mm^3, lymphocyte count of 300/mm^3, and serum IgE level of 1748 IU/mL. Drug-induced eosinophilia was denied by thorough review of medical history. *FIP1L1-PDGFRA* fusion gene, which is known to cause chronic eosinophilic leukemia, was not detected in her peripheral blood. Microscopic examination of the scale gathered from her soles revealed amounts of mites and their eggs, leading to the diagnosis of crusted scabies. We started weekly oral ivermectin 12 mg/day (210 μg/kg/day), daily topical application of 5% phenothrin lotion for all skin lesions, and occlusive dressing treatment with phenothrin for nail scabies. In addition, systemic prednisolone 25 mg/day (0.45 mg/kg/day) was introduced to prevent eosinophil-based tissue injury. After two week treatment, her rash and pruritus almost disappeared, and eosinophil count dropped to 1200/mm^3. Prednisolone was successfully tapered off with no recurrence of DCS or eosinophilia.

The clinical characteristics of papuloerythroderma include DCS, palmoplantar keratoderma, eosinophilia, lymphocytopenia, and elevated serum IgE,[3] all of which were observed in our case. Histopathologic investigation usually demonstrates only nonspecific inflammation: perivascular dermatitis with eosinophilic infiltration.[4] The true etiology of papuloerythroderma has not yet been elucidated. Furthermore, the mechanism of skin-fold sparing still remains a mystery. Some researchers hypothesize that exposure to mechanical pressure or sunlight attributes to the formation of DCS.[3] Although little evidence is available with regard to PEO treatment, topical corticosteroids and oral antihistamines are usually tried first. By contrast, the mainstay of the treatment of secondary papuloerythroderma is intervention to underlying disorders or cessation of causative drugs.

Close relationship between papuloerythroderma and eosinophilia has been suggested from the previous clinical experiences, including a case report of papuloerythroderma secondary to hypereosinophilic syndrome.[5] Indeed, eosinophilia is listed in the diagnostic criteria of PEO.[3] In our case, simultaneous improvement of cutaneous symptom and peripheral eosinophil count after

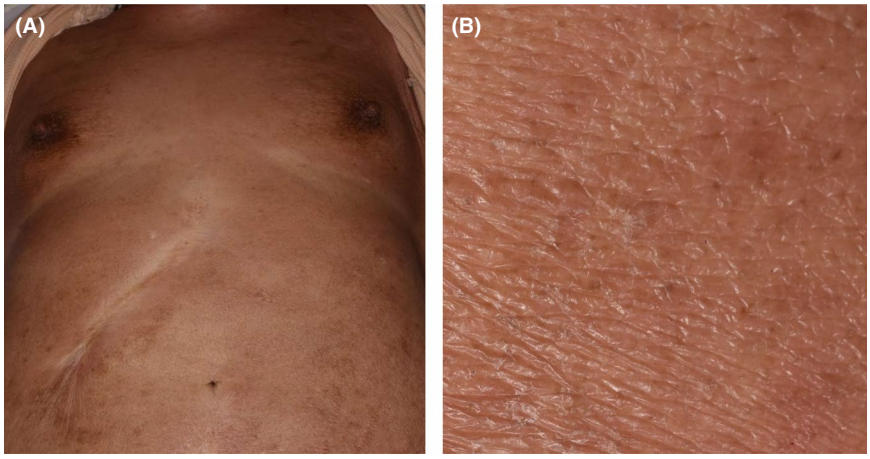

FIGURE 1 Clinical pictures of the skin rash. A, The skin rash on the trunk at lower magnification. There is erythroderma sparing the submammary folds, the compressed abdominal folds, and the surgery scar. B, The skin rash on the trunk at higher magnification. There are erythematous top-flatted papules

antiparasitic therapy indicated the association among scabies, eosinophilia, and DCS. When clinicians encounter DCS, they should seek to identify the cause of eosinophilia for definitive treatment.

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CONFLICT OF INTEREST

There is no conflict of interest to disclose.

APPROVAL OF THE RESEARCH PROTOCOL

N/A.

INFORMED CONSENT

Informed consent was obtained on a document from the subject patient.

REGISTRY AND THE REGISTRATION NO

N/A.

ANIMAL STUDIES

N/A.

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