Supravenous and perivenous distribution of a benign pigmented purpuric eruption

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To the Editor:

Pigmented purpuric dermatoses (PPD) are classified in five major variants: Schamberg disease, purpura annularis telangiectodes of Majocchi, pigmented purpuric lichenoid dermatitis of Gougerot and Blum, lichen aureus, and eczematid-like purpura of Doucas and Kapetanakis [1]. It may be difficult to define which of the five variants are present in an individual. Herein, I describe a case of benign pigmented purpuric eruption with a unique distribution both supravenous and perivenous.

A 58-year-old man presented with a one-year history of non-pruritic eruptions on his right forearm, that were unresponsive to treatment with topical corticosteroids. He had a history of hypothyroidism, type 2 diabetes, and hyperuricemia. He had been taking levothyroxine sodium hydrate, empagliflozin, metformin hydrochloride, and febuxostat for more than four years. There was no history of prior trauma or infection at this site. A physical examination revealed scattered, 2-3mm in diameter, golden-brown lichenoid macules and flat papules with mild infiltration on the flexor side of the right forearm (**Figure 1A**). The skin lesions were distributed on, and surrounding the median antebrachial veins. Some of the eruptions were confluent and spared the skin above these veins (**Figure 1B**).

A histopathological examination revealed mild vacuolar changes in the basement membrane zone, perivascular lymphocyte infiltration, and extravasated erythrocytes with hemosiderin deposition in the upper dermis (**Figure 2**). Pigmented purpuric lichenoid dermatitis of Gougerot and Blum did not correspond because of

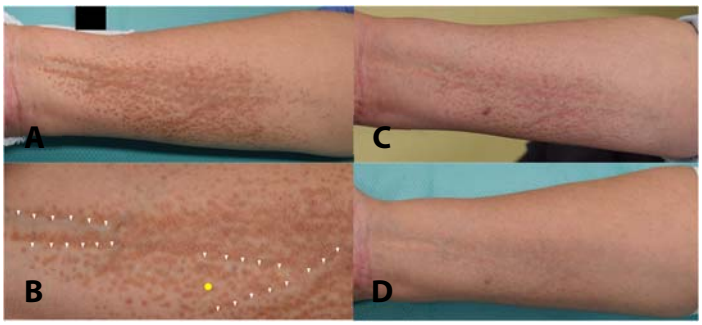

Figure 1. ***A)*** *Scattered, 2-3mm in diameter, golden-brown lichenoid macules and flat papules with mild infiltration were observed on the flexor side of the right forearm. The skin lesions were distributed on and surrounding the median antebrachial veins.* ***B)*** *Some of the eruptions were confluent and spared the skin above these veins (white arrowheads). The yellow circle indicates the skin biopsy site.* ***C)*** *Clinical presentation after the topical application of 0.1% tacrolimus ointment for three months, and* ***D)*** *8 months.*

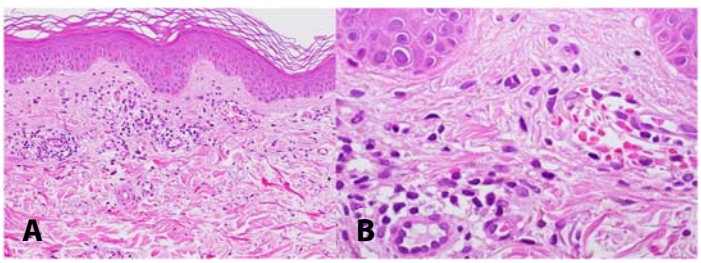

Figure 2. *H&E histopathological examination revealed mild vacuolar changes in the basement membrane zone, perivascular lymphocyte infiltration, and extravasated erythrocytes with hemosiderin deposition in the upper dermis,* ***A)*** *100×,* ***B)*** *400×.*

the asymptomatic, unilateral distribution and histological features with few epidermal changes. The clinical feature was atypical for lichen aureus. Therefore, the general diagnosis of PPD was made. The oral medication for the underlying diseases was continued. After the topical application of 0.1% tacrolimus ointment, the lesions were alleviated within three months and had almost disappeared after 8 months of therapy (**Figure 1C**, **D**). No recurrence was noted 6 months later.

Although the pathogenesis of PPD remains unclear, several theories, including venous insufficiency, capillary fragility, trauma, focal infections, medication, and disturbed humoral and/or cell-mediated immunity have been proposed [1,2]. Segmental patterns of lesions that are distributed along the courses of superficial veins are considered to be caused by insufficient superficial venous flow because venous reflux, as confirmed by ultrasonography, disappeared when such lesions were alleviated [3].

In the present case, the skin lesions showed a supravenous and perivenous distribution, but the areas above these veins were partially spared. Supravenous sparing of skin lesions is extremely rare and has only been reported in one case, to our knowledge, of lichen amyloidosis [4]. The supravenous skin temperature is higher than that of the neighboring skin owing to blood flow and the thermosensitivity of amyloid fibril formation was suspected to have played a role in the supravenous sparing of skin lesions in the reported case [4]. This mechanism does not apply to PPD. In the present case, not all large superficial veins were spared and this may be a coincidence with perivenous emphasis of skin eruptions caused by insufficient superficial venous flow.

Potential conflicts of interest

The authors declare no conflicts of interest.

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