

Staphylinid blister beetle dermatitis

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Case Report

A 35-year-old woman presented with dermatitis localized to the chin, neck and below the proximal left clavicle. Lesions showed erythema, slight oedema and confluence of flaccid bullae and pustules (Fig. 1) and resembled the so-called 'kissing lesions' due to the contact between two surfaces. The patient complained of a burning sensation and itching. The dermatitis lasted for 3D.

Tzanck smears for herpes virus infected cells were negative, as were cultures and microscopic examinations for bacteria and fungi.

A punch biopsy was performed. The histopathological study showed subcorneal pustules filled with neutrophils, acanthosis of the epidermis with foci of superficial confluent necrosis, scarce or absent granular layer, frequent mitoses and a mixed superficial and deep perivascular inflammatory infiltrate (Fig. 2).

The patient reported that she had accidentally crushed an insect on her neck. A diagnosis of blister beetle dermatitis due to *Paederus fuscipes* Curt was made, on the basis of the clinical features of the lesions, the histopathological findings, the history of crushing the insect on the skin and the season in which the disease appeared, during the first half of September.

Discussion

Blister beetle dermatitis (BBD) is a distinctive, seasonal vesiculobullous skin disorder caused by 3 major families of beetle: Meloidae, Oedemeridae and Staphylinidae (Order: Coleoptera). The eruption occurs some hours after contact with the beetle, and is due to a potent vesicant contained in the body fluids of such beetles, which is released if the beetle is brushed, pressed, or crushed against the skin (1).

The clinicopathologic features of

Paederus fuscipes BBD are specific because these beetles produce a chemical substance called paederin. This substance differs from cantharidin, the vesicant in Oedemeridae and Meloidae beetles, in its biological, physical, and chemical properties (2). *Paederus fuscipes* BBD is characterized by a more violent cutaneous reaction, with prominent urtication and a burning sensation prior to blistering (1, 3). *Paederus fuscipes* BBD was diagnosed in our patient particularly due to the latter consideration, and because *Paederus fuscipes* has previously been the most frequently isolated species in northern Italy.

Paederus fuscipes Curt is a worldwide beetle, 7–8 mm long and weighing 4 mg, which may be mistaken for an ant. These insects are predators and scavengers that feed on debris and live on the dead larvae of other insects in sandy soil near water, such as on river banks and in maize-fields and rice-fields (4, 5). Adult insects emerge toward the end of the rainy season or, as in our latitude, at the end of summer, characteristically during the first half of September (6, 7).

In a previous study (6), we reported the histopathological changes of *Paederus fuscipes* BBD as including a wide spectrum, ranging from acute epidermal necrosis and blistering to



Fig. 1. Erythema, slight oedema and confluence of flaccid bullae and pustules on the neck, chin and left clavicle.

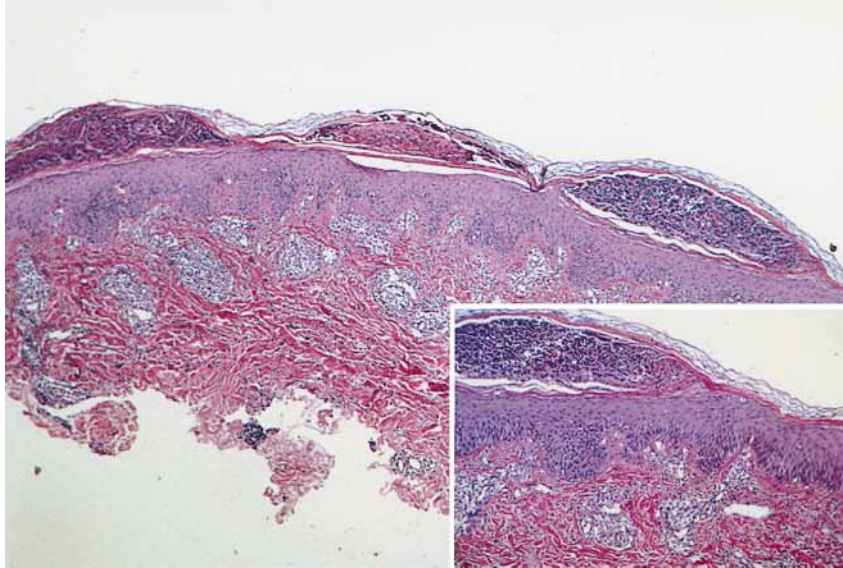


Fig. 2. Acanthosis of the epidermis with foci of superficial confluent necrosis, scarce or absent granular layer, frequent mitoses and subcorneal pustules filled with neutrophils (higher magnification). A mixed superficial and deep perivascular inflammatory infiltrate is present.

marked acanthosis with mitotic figures in the later stages. The histopathological findings of this case belong to the subacute stage, characterized by subcorneal pustules filled with neutrophils and acanthosis of the epidermis.

Paederus fuscipes BBD is a notorious clinical and histopathological mimicker of other diseases, including Sneddon–Wilkinson disease, bullous impetigo, pustular psoriasis, herpes simplex and zoster, irritant caustic or thermal injury, allergic contact dermatitis, factitial dermatitis, and arthropod bites and stings (2). Nowadays, in northern Italy, *Paederus fuscipes* dermatitis is uncommon, mainly because of the decrease in maize-fields and rice-fields, ideal breeding grounds for *Paederus* spp. In addition, climatic change may

have influenced the insect's life cycle (2).

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