

## A Case of *Paederus* Dermatitis

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*Paederus* dermatitis is a characteristic irritant contact dermatitis caused by paederin which is a chemical substance released by insects of the genus *Paederus*. Erythematous vesiculobullous eruption with a burning sensation occur within 24 hours after contact with *Paederus*. This dermatitis is frequently seen in regions with hot, tropical climates such as Africa and the Middle East. There have been a few reports of *Paederus* dermatitis in Korea. We recently had a patient with *Paederus* dermatitis who traveled to Kenya. We would like to highlight an awareness of this peculiar dermatitis due to the increasing numbers of travelers visiting tropical countries. (Ann Dermatol (Seoul) 19(2) 88~90, 2007)

Key Words: *Paederus* dermatitis, Travelers, Tropical

### INTRODUCTION

*Paederus* dermatitis is an irritant contact dermatitis characterized by a linear lesion with vesicles, bullae and pustules on an erythematous base. It is caused by insects which belong to the genus *Paederus* of the *Staphylinidae* family. These insects are widely distributed all over the world in damp, moist areas. They also increase in large numbers after heavy rain and hot weather<sup>1</sup>. Therefore, *Paederus* dermatitis is usually seen in regions with a hot, tropical climate. There have been a few reports of *Paederus* dermatitis caused by *Paederus fuscipes* in Korea since 1968<sup>2</sup>. Herein, we report a case of *Paederus* dermatitis due to a different species of *Paederus fuscipes* which broke out on a traveler who had visited Kenya, a tropical country.

### CASE REPORT

A 33-year-old Korean man who had been in

Kenya on missionary work was presented with a linear, brownish hyperpigmentation with background hypopigmentation on his left cheek and left hand (Fig. 1). He woke up a month ago to discover erythematous, pinhead-sized blisters in a linear pattern on his left cheek (Fig. 2) and left hand, accompanied by a stinging and burning sensation. The local clinician diagnosed it as *Paederus* dermatitis caused by "the Nairobi fly". He told us that the local population called this clinical picture "light burn" and "the Nairobi fly" indicating *Paederus sabaeus* or *Paederus crebrepunctatus*. This is commonly seen in Kenya, and the insect causes *Paederus* dermatitis simply by only brushing against the skin or being crushed onto it, usually while the victims are asleep. The doctor prescribed topical corticosteroids, which brought dramatic relief within a week. The patient visited our dermatology department to treat the hyperpigmentation, the sequela of "the Nairobi fly."

### DISCUSSION

*Paederus* dermatitis is an acute irritant contact dermatitis caused by insects of the Genus *Paederus*, Family *Staphylinidae*, Order *Coleoptera*. The genus *Paederus* consists of over 600 species which are distributed worldwide. The major species found in Kenya are the *Paederus sabaeus* and the *Paederus*

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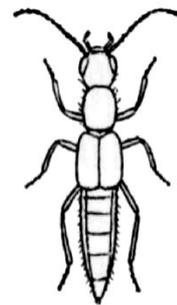
**Fig. 1.** (A) Linear postinflammatory hyperpigmentation on the left cheek. (B) "stinging lesion" of *Paederus* dermatitis on the dorsum of the left hand.

*crebrepunctatus*, known the "airobi Fly"<sup>3</sup>, while *Paederus fuscipes* is the only reported species to have caused *Paederus* dermatitis in Korea<sup>2</sup>. Morphologically, *Paederus* beetles, range from 5 mm to 10 mm in length, have a narrow, elongated body with a black head, and may resemble ants (Fig. 3). They can fly<sup>5</sup>, but they prefer to crawl or run<sup>1,4</sup>. They do not bite or sting, but accidentally brushing against the skin or being crushed on the skin results in secretion of pederin as a defense mechanism.

*Paederus* dermatitis has been reported in many countries including Australia<sup>1</sup>, Tanzania<sup>3</sup>, Iran<sup>4</sup>, Turkey<sup>5</sup>, and Nigeria<sup>6</sup>. Most cases happen during the night as the beetles are attracted to artificial light sources, hence, the local name "light burn"<sup>5</sup>. After pederin is released by the beetle, localized erythema and a stinging, burning sensation occurs within 12 to 24 gap hours. Pinhead-sized vesicles occur 2-4 days after this, which may be linear due to wiping of the insect off the skin, giving it a "hiplash"



**Fig. 2.** Linear erosive erythematous patch with vesicles on the left cheek.



**Fig. 3.** The feature of *Paederus* beetle known as "airobi fly"

appearance<sup>6</sup>. Mirror image, "stinging lesions" may be seen in skin flexures where the insect was accidentally crushed

and, transferring the pederin to the opposing skin surface<sup>1</sup>. The exposed areas of the body such as the face, neck, and arms are predilection sites, but some lesions occur on covered skin, presumably due to the beetles crawling underneath the clothing<sup>1</sup>. These lesions usually disappear within 1 to 2 weeks, occasionally leaving postinflammatory hyperpigmentation<sup>4</sup>.

The treatments of *Paederus* dermatitis are symptomatic. Topical corticosteroids and oral antihistamines are helpful in cases with severe itching. Wet dressings and oral antibiotics may be needed in the acute stage to prevent secondary infection.

Diagnosis is not difficult due to the characterized cutaneous manifestation, but *Paederus* dermatitis is often misdiagnosed and treated as herpes zoster,

bullous impetigo or another allergic contact dermatitis<sup>7</sup>. Our patient had a history of night burn and characteristic skin lesions such as vesicobullous eruption and “ring lesions” which were consistent with *Paederus dermatitis*.

In Korea, a regional outbreak of *Paederus dermatitis* first occurred in the southern area of Chunnam province in 1968<sup>8</sup>, followed by an outbreak in the midwest area of the Kyungpuk province in 1994<sup>9</sup>. Our case may be the first one which occurred in a Korean traveler outside Korea.

Local clinicians in tropical regions where *Paederus dermatitis* is common are familiar with the condition, and will diagnosis it without much difficulty. In Korea, there have been a few reports of *Paederus dermatitis* due to *Paederus fuscipes* since 1968<sup>8</sup>. However, with an increasing number of people traveling to hot and tropical regions, *Paederus dermatitis* should be considered in the differential diagnosis of vesicular rashes, when the patient has history of travel to these regions.

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