

A Case of *Paederus* Dermatitis

Song Kim, M.D.¹, Ji-Ho Park, M.D.¹, Joo-Heung Lee, M.D.¹, Jun-Mo Yang, M.D.¹,
Eil-Soo Lee, M.D.¹, Jung-Keun Kim, M.D.², Won-Serk Kim, M.D.²

Department of Dermatology, Samsung Medical Center¹ and Kangbuk Samsung Hospital²
Sungkyunkwan University, School of Medicine, Seoul, Korea

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 weather¹. 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 1968². 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 "ie Nairobi fly". He told us that the local population called this clinical picture "ight burn" and "ie 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 "ie 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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Reprint request to: Won-Serk Kim, M.D., Department of Dermatology, Kangbuk Samsung Hospital, 108 Pyungdong, Jongno-gu, Seoul 110-746, Korea. Tel: 82-2-2001-2412, Fax: 82-2-2001-2236, E-mail: susini@naver.com



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"³, while *Paederus fuscipes* is the only reported species to have caused *Paederus* dermatitis in Korea². 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, but they prefer to crawl or run^{1,4}. 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 Australia¹, Tanzania³, Iran⁴, Turkey⁵, and Nigeria⁶. Most cases happen during the night as the beetles are attracted to artificial light sources, hence, the local name "light burn"⁵. 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.

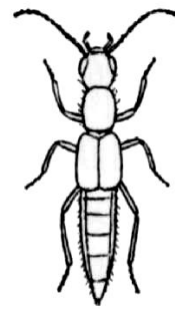


Fig. 3. The feature of *Paederus* beetle known as "airobi fly"

appearance⁶. Mirror image, "stinging lesions" may be seen in skin flexures where the insect was accidentally crushed

d, transferring the pederin to the opposing skin surface¹. 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 clothing¹. These lesions usually disappear within 1 to 2 weeks, occasionally leaving postinflammatory hyperpigmentation⁴.

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 dermatitis⁷. 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 1968⁸, followed by an outbreak in the midwest area of the Kyungpuk province in 1994⁹. 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 1968⁸. 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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