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PhotoDermDiagnosis

Sudden appearance of erythematous papules and vesicles

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A 36 years old man presented with painful erythematous lesions over inner arm and apposing part of trunk for 1 day. He says that he noticed it first in the morning. It was extremely painful (arm> trunk) and was associated with burning sensation. He denies use of deodorant or local application of any substance prior to onset of lesions. On examination two lesions were found- one on inner right arm and the other on apposing part of trunk (**Figure 1**) Inner arm lesion was oval in shape with one narrower end while the trunk lesion was irregular in shape. Individual lesion comprised of multiple erythematous papules and few vesicles surrounding an area of necrosis (blackish area). Skin necrosis was more pronounced in arm lesion than in trunk lesion (**Figure 2**). Rest of the cutaneous examination was unremarkable.

What is your diagnosis?

Figure 1

Figure 2

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Diagnosis

Paederus dermatitis/blister beetle dermatitis

Discussion

Paederus dermatitis, also known as Dermatitis linearis and Blister beetle dermatitis, is caused by contact with the chemical, Paederin, contained in the body fluid of insects of genus *Paederus*.[1] It is a specific type of acute irritant dermatitis and is clinically characterized by sudden appearance of vesicles and pustules over an erythematous base and sometimes areas of skin necrosis.[1]

The genus *Paederus* consists of more than 622 species and has worldwide distribution.[2] *P. fuscipes* and *P. melampus* are most important species in India.[1,3] Many outbreaks have been reported in various parts of world including India.[1,4,5,6] These insects, 10-15 mm in length, (**Figure 3**) are active during the months of spring and summer. They do not bite or sting. The disease is produced by contact with their body fluids containing a potent vesicant, paederin.[1] Paederin is believed to block mitosis, even at a concentration as low as 1 ng/ml, by inhibiting DNA and protein synthesis.[7] Also, they cause release of epidermal proteases which cause acantholysis and hence blister formation..[2]

The patient usually presents with sudden appearance of vesicles and pustules over an erythematous base over the exposed parts. They usually notice it first in the morning and feel intense pain and burning sensation in the affected part. This "night burn" is an important diagnostic clue. Any part of the body can be affected but exposed parts are affected most. Many a time lesion is linear in shape and show "tailing or whiplash appearance"- corresponding with the crawling of insect over the body. The

Figure 3 *Paederus* insect.

condition can be severe enough to cause large area of skin necrosis. The apposed parts (usually flexures) may develop lesions too and such a lesion is called "kissing lesion". Ocular and genital lesions may be seen- usually a result of spread of vesicant by fingers. Keratoconjunctivits can develop if periorbital area is affected- "Nairobi eye". Todd et al report widespread erythema and desquamation of the upper body as rare presentation.[8] The condition is self limiting and heals within 10-12 days with transient post inflammatory hyperpigmentation.[1] Secondary infection may complicate the condition.

Common differential diagnoses include herpes simplex, herpes zoster, irritant contact dermatitis and allergic contact dermatitis. History, predilection for exposed parts, linear nature of primary lesion and presence of kissing lesions are important clue for diagnosis.

Treatment includes washing off the area and application of topical steroid. Antibiotic may be required if there is secondary infection.

Identification of this condition is crucial in controlling this condition. Simple preventive measures like using mosquito net, fixing mesh to windows, using insect repellant cream on exposed parts at night and spraying insecticides (like malathion) can control this condition.

Moreover patient should be educated not to crush insect or to manipulate primary lesion as it may aggravate the condition.

Typical history and classical skin findings supported the diagnosis of *Paederus* dermatitis. In our case, arm lesion (more intense pain and more prominent skin necrosis) was the primary lesion while trunk lesion was "kissing lesion".

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