



PAEDERUS DERMATITIS: AN IRRITANT VESICANT DERMATITIS - CASE REPORT AND REVIEW

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ABSTRACT

Paederus dermatitis is a peculiar irritant contact dermatitis presenting with erythematous linear lesions, bullous lesions of sudden onset on exposed parts of the body. The characteristic appearance of kissing lesions, post inflammatory hyperpigmentation, predilection for exposed areas and epidemiological features suggestive of Paederus dermatitis were present in our case report. The preventive measures include that if a beetle lands on the skin it should be blown off or encouraged to walk onto a piece of paper and then removed and that if it is crushed, the irritant vesicant is removed by washing the area affected with soap and water, followed by treatment with topical steroids and antibiotics as required. Paederus dermatitis is a common condition that is often misdiagnosed and hence awareness is required for the clinicians and the general public to prevent it.

KEYWORDS : Paederus, Vesicant, Irritant dermatitis, Kissing lesion

Introduction

Paederus dermatitis is a form of peculiar irritant contact dermatitis. It is characterized by the presence of erythematous and bullous lesions which are of sudden onset presenting on the exposed parts of the body. The dermatitis is caused by the accidental brushing or crushing of the insects of the genus *Paederus* that releases a potent vesicant named paederin. We present here a case report of Paederus dermatitis, an irritant dermatitis that is commonly misdiagnosed.

Case Report

A 19 year old male, a student came with a red oozing lesion on the left side of neck extending to back with complaints of severe burning sensation and pain for the past 1 day. He gave history of playing outdoors and accidental crushing of an insect. He gave history of similar lesions in his friends in hostel. The lesion was a linear erythematous patch with minute vesicles of size 7 cm, on the left side of neck extending to the opposing back (kissing in nature) (Figure 1).



FIG 1 shows linear erythematous patch with minute vesicles of size 7 cm, kissing in nature on the left side of neck extending to the opposing back.

He was treated with topical antibiotic, topical steroid, oral analgesics and oral antibiotics for 1 week following which the lesion started resolving with post inflammatory hyperpigmentation (Figure 2).



FIG 2 shows resolving lesion with post inflammatory hyperpigmentation

Discussion

Paederus insects belong to the family *Staphyllinidae*, order *Coleoptera*, class *Insecta* and consists of over 622 species which are distributed worldwide except Antarctica.¹ The species that is commonly seen in India is *Paederus melampus*. The peak season reported in South India is April by Gnanaraj, Pushpa, et al¹. and also immediately following the rains where the 3 cases we report have also occurred in the same period.

Paederus are nocturnal insects that are by fluorescent and incandescent lamps and so can inadvertently come in contact with human beings. The hemolymph of the beetle contains a substance called paederin.

erin² which is released when the insect is crushed onto the surface of the skin when we brush away the insect as a reflex habit. Paederin is a potent vesicant that causes the irritant contact reaction. The exposed areas of the body are the frequent sites involved.

The skin reaction depends on the concentration of paederin exposed, the duration of exposure, and other individual characteristics. In mild forms, there is only a slight erythema that lasts for few days. In moderate forms, the erythema progresses into vesicles and bulla over few days, followed by the healing stage when the blisters heal over a week, and then the desquamative stage when they desquamate, leaving behind hypo or hyperpigmented patches. Scarring does not usually occur. The lesions are characteristically linear due to the smearing of the crushed insect across the skin and also kissing lesions occurring as a result of crushing the insect between the skin folds, e.g., flexure of the elbow, adjacent surfaces of the thighs.³ The affected individuals may inadvertently transfer the paederin substance to other areas of the body like the genitals or the face. If the periorbital area is affected, conjunctivitis may develop (referred to "Nairobi eye" in eastern Africa).³

The complications that can occur include secondary bacterial infections, post inflammatory hyperpigmentation or hypopigmentation and extensive exfoliating and ulcerating dermatitis.²

The skin biopsy in early stages shows extensive spongiosis and intraepidermal vesicles and later stages shows reticular degeneration of epidermis.⁴

The differential diagnosis includes liquid burns, acute allergic or irritant contact dermatitis due to other irritants, herpes simplex, herpes zoster, phytophotodermatitis and millipede dermatitis.²

The characteristic appearance of kissing lesions, linear lesions, predilection for exposed areas, the histopathology and finally epidemiological features (occurrence of similar cases in a given area, the seasonal incidence and identification of the insect) should enable the clinician to arrive at the right diagnosis.

The characteristic appearance of kissing lesions, predilection for exposed areas, epidemiological features and post inflammatory hyperpigmentation suggestive of Paederus dermatitis were present in our case report.

Treatment involves the following steps:

The primary method of preventing Paederus dermatitis is to avoid the human and beetle contact. Learning to recognize Paederus beetles and avoidance of the crushing or handling of these insects will help to decrease this dermatitis.

If a beetle lands on the skin, it should be blown off or encouraged to walk onto a piece of paper and then removed.³

If the beetle is crushed or handled, removal of the irritant vesicant is done by washing the area affected with soap and water.

The blisters are treated with wet soaks followed by topical steroid and antibiotics when required. Oral antibiotics and analgesics are needed in severe cases.

The beetles are attracted to light and hence light should be switched off near the areas where the people sleep. The doors should be kept closed and screening of windows should be done so as to reduce the entry of these insects into the buildings.

Increasing the level of knowledge of people about the cause of the disease and about the behavioral patterns of the insects are important in terms of disease prevention.⁵

Limitations

The entomological study of the local insect and the histopathological examination of the lesion could not be done.

Conclusion

Paederus dermatitis is a common condition that is often misdiagnosed. A thorough clinical history with the presence of characteristic

lesions should alert the clinicians. The general public should be given awareness about this condition, its complications and its preventive measures like avoiding contact with the nocturnal beetle.

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