



Paederus Induced Widespread Vesiculobullous Eruption

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Abstract:

Paederus dermatitis is a peculiar irritant dermatitis characterised by appearance of vesicles, bulla and pustules on erythematous base. The disease is provoked by an insect belonging to the genus *Paederus*. The beetle does not bite or sting, but brushing or crushing the beetle over the skin provokes the release of hemolymph which contains paederin, a potent vesicant agent. We report a case of extensive involvement of the skin by *Paederus* that mimicked varicella minor.

Key words: *Paederus* dermatitis, Kissing lesions.

Introduction

Paederus dermatitis also known as blister beetle dermatitis is a peculiar form of acute irritant contact dermatitis caused by a beetle belonging to the genus *Paederus*. The insect doesn't bite or sting, but releases hemolymph containing paederin, a potent vesicant. The chemical leads to linear dermatitis composed of erythematous lesions at the site of contact. The disease is easily diagnosed on the basis of characteristic linear configuration with tailing sign. We report a rare presentation of *Paederus* dermatitis involving whole of the upper part of body that was misdiagnosed as varicella minor.

Case Report

A 27 year old male presented to skin outpatient department with widespread erythematous vesiculopustular eruptions on trunk, chest and back for 3 days [Figure1]. There was associated pain and burning sensation in the lesions that mimicked varicella minor. Erythematous rash was noticed first in morning which progressed to vesiculo-pustular lesions with necrosis. Examination revealed linear lesions with central vesiculation and necrosis in centre [Figure2]. He could not recall coming in contact with anything unusual. On basis of clinical history and lesion morphology, he was diagnosed as a case of widespread *Paederus* dermatitis. Extensive involvement of skin corresponded to crawling and maceration of insect over the body while the patient was asleep.

Discussion

Paederus dermatitis also known as blister beetle dermatitis is caused by contact with chemical paederin contained in the body fluid of insects of genus *Paederus* [1]. Most common species reported from India are *P. fuscipes* and *P. melampus* [2]. Generally, dermatitis presents a characteristic clinical pattern of linear or oval



Fig.1: Widespread involvement with erythematous rash and vesiculopustular eruptions



Fig.2: Paederus dermatitis lesion showing central necrosis

lesions with erythematous papules and vesicles surrounding an area of necrosis, localised to the site of contact with the insect. This beetle does not bite or sting but brushing or crushing the beetle over the skin provokes the release of its coelomic fluid, which contains pederin [3]. Pederin is a potent vesicant. Pederin is believed to block mitosis, even at a concentration of 1 ng/ml, by inhibiting DNA and protein synthesis [4]. They also cause release of epidermal proteases which cause acantholysis and hence blister formation. Any part of body can be affected but exposed parts are mostly affected.

Most of the times, the lesion occurs in a linear pattern showing tailing or whiplash pattern, corresponding to the contact with insect over the body [5]. A striking feature of paederus dermatitis is presence of kissing lesions. They occur whenever apposition of primary lesion to previously intact skin occurs. They frequently occur on apposed surfaces e.g. flexures of elbow, axilla and apposed skin of arm. Primary lesion shows more prominent skin necrosis and is usually larger than the kissing lesion. Ocular and genital involvement may occur. Ocular involvement presents as unilateral keratoconjunctivitis or periorbital dermatitis which is called “Nairobi eye” [6]. Severe and widespread involvement of skin occurs rarely. Todd *et al* has reported widespread erythema and desquamation of the upper body as rare presentation [7]. Clinical appearance of Paederus dermatitis can

mimic herpes simples, herpes zoster, phytophotodermatitis, and irritant and allergic contact dermatitis. These lesions are often misdiagnosed as herpes zoster infection or herpes simples because of burning and stinging sensation. History, characteristic linear pattern of the lesions, predilection of exposed part and presence of kissing lesion are important clues for diagnosis.

Treatment of the condition includes washing off the area and application of topical steroid. Short course of antibiotic may be useful in the acute phase to prevent impetiginisation. Simple preventive measures like mosquito net, fixing mesh to windows can lower the incidence. It is also important to recognise *Paederus* beetle and avoid contact with exposed skin. Manipulating the lesions can also aggravate the condition due to spread of paederin. It should be washed off gently. In our case widespread involvement of body occurred which was responsible for lesions resembling varicella minor. Careful examination of the morphology of lesions, presence of kissing lesions and central necrosis in some lesions pointed towards the diagnosis. The case is being reported because widespread involvement by *Paederus* is rare presentation that needs awareness among general physicians.

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