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ACID FLY ATTACK AMONG THE RESIDENTIAL STUDENTS IN RURAL AREA AT SOUTH OF TAMILNADU

Ms.E.Kalasri
Assistant Lecturer, KMC College of Nursing, Trichy

Mr.K.Jayaprakash
Lecturer, KMC College of Nursing, Trichy

Dr.A.Rajathi
Principal, KMC College of Nursing, Trichy

INTRODUCTION

Paederus dermatitis was first reported in the literature in 1901 by Vorderman, who reported an outbreak of dermatitis in personnel at the Anjet-Kidoel lighthouse in Jawa caused by insects that were known locally as semoet-kalong. Paederus dermatitis is found in all zoogeographic regions across the world Sporadic cases are seen in any season when the insect is active, but large outbreaks occur particularly during the rainy months.

PAEDERUS

The species described by Vorderman was Paederusperegrinus, believed to be a variety of Paederusfuscipes. Various names given for this condition include "Dermatitevesiculeusesaisonnière" (1915), "Dermatitislinearis" (1917), "Rovebeetledermatitis" (1963), "Staphylinidae dermatitis" (1968), "whiplash dermatitis" (1954) and spider lick.A study found that dispersal of P.fuscipes occurred mainly during rice harvesting,plowing and straw burning due to destruction of habitat and non-availability of food. The Paederusgroup of insects belong to the rove beetle family which is the second largest family of beetles (Staphylinidae, Coleoptera).

The term Coleoptera was given by Aristotle to insects with wing cases, referring to the koleon (sheath) and pteron (wing). The insects are usually around 7–13 mm long and are often mistaken for ants.They are brightly colored with metallic blue- or

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green-colored and many with bright orange or red on the pronotum and the basal segments of the abdomen.

CASE REPORT

In 2020,January there was an increase in the number of residential students reporting with burning skin lesions. The residential building had large ventilation openings for cross ventilation in the corridors was where students spent most of their time reading with lights in the evening and night hours, which could have acted as an attractant for the flies. The affected rooms and the corridors inspected by the Management team had a high number of flies of different species, both dead and alive. Residents who reported to have been attacked by acid fly and present at the time of investigation were interviewed, and rashes were examined by the experts in the Medical team, for verification and confirmation of diagnosis. Rashes were very much suggestive of acid fly toxin induced lesions. With the help of residents and the residential building administrators, the investigation team collected dead and live samples of acid flies from the hostel.Most of the residential premises were observed to be kept clean, however there were potential breeding areas. Students giving a history of lesions starting as erythematous swellings with burning sensation which eventually developed into a superficial blister in 24 -48 hours, in a linear pattern or a kissing pattern between flexures, Acid fly attack diagnoses were clinically made.We propose the following criteria for the diagnosis of Paederus dermatitis based on the history and clinical features. Histopathology is not diagnostic and was not included in the criteria.Acute onset eruption with burning or itching sensation.,linear or streaky pattern of dermatitis with or without kissing lesions and history of contact with Paederus beetle or patient from an endemic region.

TREATMENT

- The area should be washed with soap and water.
- Tincture iodine topically neutralizes pederin.
- Oral antihistamines may be given.Silver sulfadiazine has antibacterial activity and has been recommended to ameliorate symptoms.
- Soothing agents such as calamine, camphor and topical anesthetics (lidocaine, benzocaine) have been used for temporary relief of itching and burning sensations.After the appearance of the lesions, topical steroids with or without an antibiotic are effective.
- Qadirrecommended a regimen consisting of oral antihistamines, topical steroids and oral ciprofloxacin.
- Topical steroids are given till the skin lesions crust or show signs of healing; this usually takes 7–10 days. Antihistamines are useful for relieving pruritus.

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PREVENTION

- Reducing the insect population in the surroundings**.** Avoidance of contact of insects with human skin**.**
- Minimizing release of toxin from the insect after it alights on the skin**.**
- Prevention or reduction of lesions after contact.
- Reduction of Insects in the Surroundings - Primary prevention is by increasing public awareness of the habitat of the insects, their attraction to artificial lights and the manner of exposure to the toxin and prophylactic measures post exposure.
- This is especially important during periods of known outbreaks such as the monsoon season.
- Recommend regular preventive sprays of pyrethroids and 50% malathion in infested areas.
- Minimizing contact of insects with human skin- Windows should be closed before putting on artificial lights in theevenings; this can prevent insects from entering the building, as it has been seen that these insects are most active from 1 h after sunset till midnight.
- Netted screens may be placed on doors and windows to allow ventilation while keeping out insects.
- However, care should be exercised in selecting the appropriate size meshwork, as the insects because of their small girth, can pass through the standard mesh openings of 1.5 mm2 as they measure only 1 mm × 0.5 mm in cross-section.
- People in susceptible areas should avoid standing directly under fluorescent lights, especially during the monsoon season.
- In fact, sleeping near fluorescent lights even after they are switched off should also be avoided because that is the time when most of the contacts occur.
- Rooms can be sprayed with insecticide which can also be used to spray the insects when seen; however, care must be taken not to crush the dead beetle which can also release toxin when crushed.
- Use of mosquito nets which may or may not be treated with permethrin is useful to prevent fall of insects while sleeping.
- Insect electrocution devices that use ultraviolet light to attract the insects may be used.
- However, people should avoid staying close to these contraptions to avoid contact with the beetles.
- Insect trapping devices such as sticky traps and glue boards may also be used.
- Pheromone-based baits may be used for monitoring.Insect repellent creams may be used on a short - term basis when working in areas with a heavy load.
- If one needs to work in an area with a high prevalence of beetles, long sleeved shirts and hats would go a long way in preventing contact of the skin with the beetles.
- Home remedies -apply aloe Vera and coconut oil.

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CONCLUSION

Our study concluded that *Paederusfuscipes*was the causative agent and it was identified. Top storeys of buildings, illuminated at night, facing potentially wet areas were seen to be affected more. As a preventive measure, the investigating team suggested 'fly proofing' of the entire Hostel building .Residential premises and the swamp area were suggested cleaning on a war-footing, followed by appropriate pyrithroid fogging. Insecticide spraying was advised to be done regularly in the surrounding areas and in the hostel.

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