Letters to the Editor

Paederus dermatitis among residents of nursing hostel in central India: An outbreak investigation

Sir,

*Paederus* dermatitis is a peculiar irritant contact dermatitis. It occurs when beetles of the genus *Paederus* belonging to the family Staphylinidae (rove beetles), order Coleoptera (beetles) are crushed on the skin, releasing the hemolymph pederin. It is characterized by sudden onset of burning or stinging sensation with appearance of vesicles and pustules.
Vesicular dermatitis due to contacts with beetles is common worldwide, although the condition has been infrequently described in India with limited data on clinico-entomological aspects. On March 28th 2010, an outbreak of skin rashes at girl's hostel of Anushree Nursing College was reported to the Department of Community Medicine in Netaji Subhash Chandra Bose Medical College of Jabalpur district. An investigation was conducted to determine the epidemiology of skin rash outbreak, to identify the cause, and to recommend therapeutic and preventive measures. Investigation included interview of all cases using a predesigned and prestructured questionnaire to collect personal information and presenting complaints. Physical examination of all cases was done by trained doctors. Cases were defined as all who were present at the hostel on the day of investigation and developed skin rashes. Environmental and entomological survey was carried out. Ninety-seven residents of a girl’s hostel were examined for skin rashes. All were females in the age group of 18-24 years. Mean age was 21.2 ± 1.4. Among those, 35 (36%) residents had complaints of skin rashes. Most common presentation was linear erythematous lesions with vesicles seen among 32 (91.4%) cases as shown in Figure 1 as compared with nonlinear irregular bizarre erythematous lesion with vesicles seen among three (8.6%) cases. Lesions were present on exposed areas like face, nape of neck, forearms, and legs among 29 (82.8%) cases as shown in Figure 2 as compared with six (11.2%) cases had lesions on trunk and other areas. Twenty-three (65.7%) subjects were living in the rooms with windows opening toward the fields. (Relative risk = 2.03; 95% confidence interval: 5.1; 81.3) (P = 0.002, Fisher’s exact test). The attack rate was 53.5% (23/43) among residents living in rooms with windows toward the fields, while it was 22.2% (12/54) among the residents living in rooms with no window facing toward the fields. Multiple lesions at different sites indicating multiple exposures were seen among 15 (42.8%) cases, while single lesion was seen in 20 (57.2%) cases. The earliest complaint was burning sensation among 33 (94.3%) cases. Other initial complaints were itching and redness on the exposed skin. Out of 35 cases, 23 (65.7%) admitted the encounter with rove beetle either in the form of brushing or in the form of crushing over skin. Others were unclear about the exact mode of contact with the beetle or not remembering any such encounter. All cases developed sign and symptoms of contact dermatitis within 48 hours of exposure to insects, while in maximum cases 16 (45.7%) skin rashes developed within 8-12 hours of exposure. Nineteen (54.28%) girls received outpatient treatment and were given analgesic, antihistamines, antibiotics, and corticosteroid cream to apply on the affected area. A total of 90% of these girls reported to be wrongly diagnosed burn marks, herpes zoster infections, and healed scars by the consulting doctors. During environmental survey, it was found that hostel was surrounded with agricultural field on two sides. Reportedly paddy harvesting had just begun during this time. Windows of nearly half of the hostel rooms were opened facing the fields. Hostel campus was not covered properly and windows and doors of the rooms were not screened to prevent the entry of insects. Fluorescent lamps used for lighting in the hostel rooms attract beetles. For entomological investigation, insects were trapped from the hostel rooms, courtyard, and agricultural fields and sent to entomology.
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It was also suggested to screen the windows and doors.

Treatment was given to the cases.

- Wash the contact areas with soap and water.
- Regular deep cleaning of habitat area and broad-spectrum pesticide like deltamethrin is suggested as a control measure.
- It was suggested to improve the sanitary condition around the habitat area, and broad-spectrum pesticide like deltamethrin is suggested as a control measure.
- It was also suggested to screen the windows and doors.
- Regular deep cleaning of habitat area and broad-spectrum pesticide like deltamethrin is suggested as a control measure.

Interventions and recommendations given

- Treatment was given to the cases.
- Educating them to recognize the beetle and avoid handling them.
- Wash the contact areas with soap and water.
- They were told to use repellants, use bed nets, and spray “Hit- Insects” in rooms.
- It was suggested to improve the sanitary condition around the habitat.
- It was also suggested to screen the windows and doors.

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Figure 3: Rove beetles collected during outbreak investigation

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155