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Images in Medicine

Paediatrics Section

Dermatitis Linearis: A Clinical Snapshot of *Paederus* Beetle Infestation in a Child

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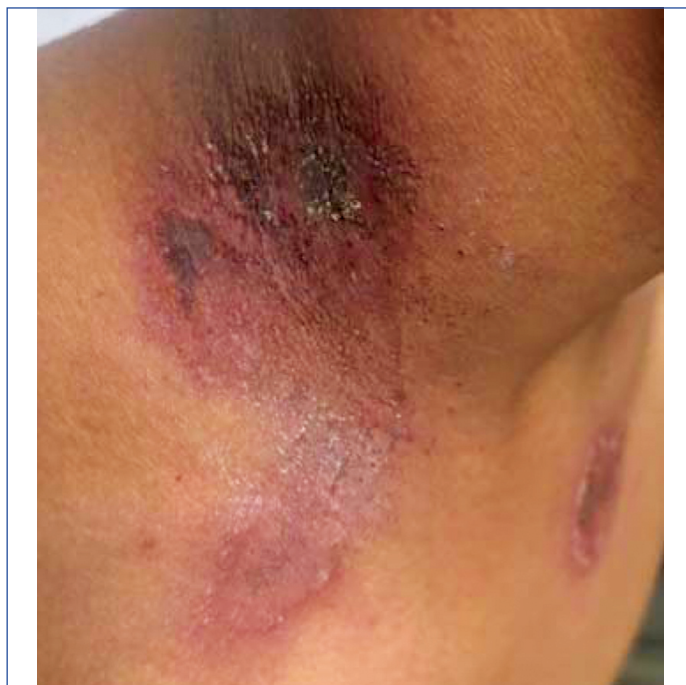
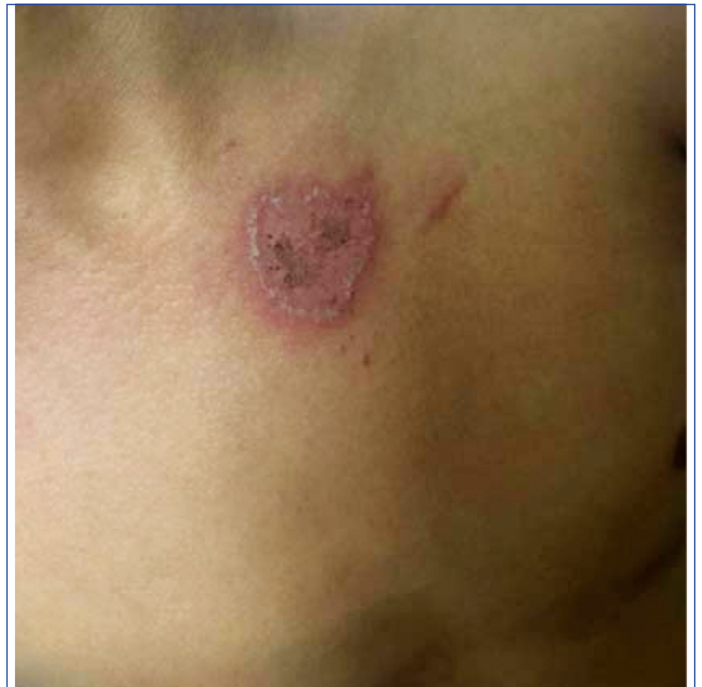
Paederus dermatitis is a form of acute irritant contact dermatitis that occurs when pederin is released after crushing *Paederus* beetles (locally known as "Neruppu Poochi" or "Thee Poochi" in Tamil). It is frequently encountered in tropical regions, particularly during the monsoon season. Timely identification and awareness of simple preventive measures are important to prevent misdiagnosis, guide appropriate treatment, and reduce occurrence in high-risk rural populations.

A nine-year-old boy presented to the Paediatric Outpatient Department with a two-day history of painful erythematous lesions arranged in linear patterns over the neck and upper trunk. Three days prior to symptom onset, he had been collecting clothes from the terrace of his residence, which is surrounded by paddy fields on three sides. He noticed several small black coloured insects flying around him in a swarm. Some insects landed on his skin and started crawling, and he instinctively crushed them. Mild itching developed the same evening, followed by a burning sensation and blister formation overnight.

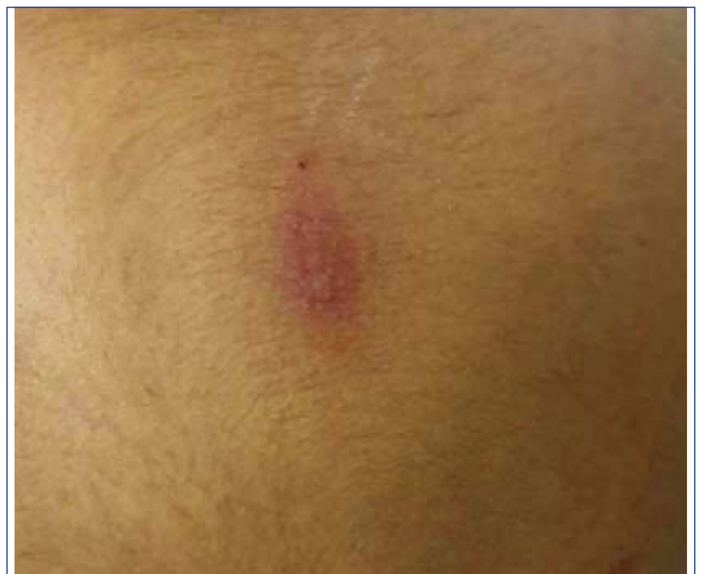
Cutaneous examination revealed multiple well-defined linear and streaky erythematous plaques over the right side of the neck, clavicular region, and upper back, measuring approximately 5-10 cm in length. Some lesions showed central erosions with crusting and superficial desquamation [Table/Fig-1-3]. There was no mucosal involvement, systemic symptoms, or evidence of secondary infection. The child had no significant past medical history, family history, drug allergies, or recent travel and vaccination history. Routine laboratory investigations were within normal limits.



[Table/Fig-1]: Linear erythematous vesiculobullous lesions over the right-side of the neck showing characteristic "whiplash" pattern consistent with *Paederus* dermatitis.



[Table/Fig-2]: Close-up view of vesiculobullous lesions with central erosion and crusting over the clavicular region.



[Table/Fig-3]: Resolving lesions during follow-up after one week of treatment, showing mild residual post-inflammatory hyperpigmentation.

Based on the clinical morphology and history of exposure to beetles, a diagnosis of *Paederus* dermatitis was made. Differential diagnoses considered included herpes zoster, irritant contact dermatitis, phytophotodermatitis, and bullous impetigo. Herpes zoster was considered unlikely due to absence of dermatomal distribution or neuralgic pain. Bullous impetigo was excluded due to lack of honey-

coloured crusts and systemic symptoms. Phytophotodermatitis was unlikely as there was no history of plant or citrus exposure. The characteristic linear “whiplash” pattern and history of crushing beetles strongly supported the diagnosis of *Paederus* dermatitis. The child was treated with topical corticosteroids applied once daily for seven days along with oral cetirizine 5 mg once daily for five days for symptomatic relief. Significant improvement was noted within one week, with complete resolution of lesions and mild post-inflammatory hyperpigmentation that faded over the subsequent two weeks.

Paederus dermatitis is a form of irritant contact dermatitis caused by accidental contact with pederin, a potent vesicant toxin released when *Paederus* beetles are crushed on the skin. The toxin is not introduced through a bite or sting but through direct chemical exposure, leading to epidermal necrosis and inflammation. Lesions typically develop within 24-48 hours and characteristically appear as linear or “whiplash-like” erythematous plaques, often with vesicles or bullae [1].

The condition is commonly reported in tropical and subtropical regions, particularly during the monsoon season when beetle activity increases and attraction to artificial light enhances human contact [2]. In children, the presentation may be misleading due to resemblance to other vesiculobullous disorders such as herpes zoster, bullous impetigo, phytophotodermatitis, and allergic contact dermatitis, making clinical recognition essential [3].

Rove beetles belong to different families within the order Coleoptera. While members of *Meloidae* and *Oedemeridae* produce cantharidin causing non inflammatory blistering, *Paederus* species (family *Staphylinidae*) release pederin, which induces inflammatory vesiculobullous lesions [4]. Most cases are self-limiting and resolve within one to two weeks, often leaving transient post-inflammatory hyperpigmentation [5].

Management is primarily supportive and includes immediate washing of the affected area to remove residual toxin, application of topical corticosteroids to reduce inflammation, and antihistamines for symptomatic relief. Antibiotics are required only in cases complicated by secondary bacterial infection [6]. Recent reports from endemic regions, including a cross-sectional study and recent case series from Phuentsholing, Bhutan, have documented outbreak patterns of *Paederus* dermatitis associated with environmental factors such as agricultural exposure and attraction to artificial lighting, underscoring its public health relevance [7].

Early recognition based on clinical morphology and exposure history is crucial to avoid misdiagnosis and unnecessary treatment. Preventive strategies are important in endemic areas. Individuals should avoid crushing beetles on the skin and instead gently blow or brush them away. Reducing exposure to bright artificial lights at night, using window screens, and wearing protective clothing can decrease contact with *Paederus* beetles. Community awareness and education about the condition can also help prevent outbreaks.

REFERENCES

[1] Srihari S, Kombettu AP, Rudrappa KG, Betkerur J. Paederus dermatitis: A case series. Indian Dermatol Online J. 2017;8(5):361-64.
[2] Tamilselvan B, Shanmugam S, Shakthi P. A case series of Paederus dermatitis: Understanding its varied and diverse clinical presentations. Cureus. 2024;16(2):e54148.
[3] Karthikeyan K, Kumar A. Paederus dermatitis. Indian J Dermatol Venereol Leprol. 2017;83(4):424-431. Doi: 10.4103/0378-6323.198441. PMID: 28584222.
[4] Nicholls DS, Christmas TI, Greig DE. Oedemerid blister beetle dermatosis: A review. J Am Acad Dermatol. 1990;22(5):815-19.
[5] Gnanaraj P, Venugopal V, Mozhi MK, Pandurangan CN. An outbreak of Paederus dermatitis in South India. J Am Acad Dermatol. 2007;57(2):297-300.
[6] Beaulieu BA, Irish SR. Literature review of the causes, treatment, and prevention of dermatitis linearis. J Travel Med. 2016;23(4):taw032. Doi: 10.1093/jtm/taw032.
[7] Gyeltshen K, Sangye N, Tenzin KC, Dorji T. Clinical description and treatment outcomes of Paederus dermatitis in Phuentsholing, Bhutan in 2021: A cross-sectional study. Skin Health Dis. 2023;3(4):e223.

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