

## Original Research Article

# A study of blister beetle dermatitis

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### ABSTRACT

**Background:** Blister beetle dermatitis is an irritant dermatitis caused mainly by beetles of the genus *Paederus*. It is clinically characterised by acute onset of linear erythematous plaques mainly over exposed areas like face, neck and upper limb.

**Methods:** Fifty four patients with blister beetle dermatitis who presented to the dermatology outpatient department over a period of three months from May 2017 to July 2017 were included in this study. The various clinical patterns of blister beetle dermatitis observed in these patients are described.

**Results:** Face was the commonest site involved (48%) followed by upper limb (33%). Linear erythematous plaques with or without vesiculation were seen in 78% and kissing lesions were seen in 6 patients. Majority of patients (83%) had burning sensation at the site of the lesions and residual pigmentation was seen in 92% of patients.

**Conclusions:** Blister beetle dermatitis is a common problem in tropical countries like India. Knowledge about the various clinical presentations will help in early diagnosis and treatment.

**Keywords:** Blister beetle, Dermatitis, Paederus, Pigmentation

### INTRODUCTION

Blister beetle dermatitis (BBD) is a seasonal irritant contact dermatitis caused mainly by beetles of the genus *Paederus*. It is clinically characterised by acute onset of linear erythematous plaques with vesiculation and crusting. These beetles breed in hot and humid conditions and maximum cases are seen during the months of May and June.<sup>1</sup> In this study the various clinical patterns of blister beetle dermatitis observed in fifty four patients is described.

### METHODS

Fifty four patients with blister beetle dermatitis who presented to the dermatology outpatient department of Karuna Medical College during the months from May 2017 to July 2017 were included in this study. After

taking consent, clinical details and photographs of the patients were taken. Patients were treated with topical corticosteroid and antibiotic combination. Systemic steroids were given for severe cases and oral antibiotics if the lesions were secondarily infected. Patients were called for review after one week. They were counselled about the methods to prevent future episodes of blister beetle dermatitis.

### RESULTS

A total of fifty four patients were included in the study. Out of the 54 patients 35 were males and 19 were females. Age ranged from 8 to 46 years.

Most of the patients had multiple lesions. Face was the commonest site involved (48%) followed by upper limb (33%). Lower limbs were least affected (Table 1).

**Table 1: Site of involvement.**

Site	Number	%
Face	26	48.15
Neck	14	25.93
Trunk	8	14.81
Upper extremity	18	33.32
Lower extremity	3	5.56

**Table 2: Clinical presentation.**

Symptoms and signs	Number	%
Linear erythematous plaque	42	77.78
Vesicles, pustules and bullae	17	31.48
Kissing lesions	6	11.11
Burning sensation and pain	45	83.33
Itching	9	16.67



**Figure 1: Linear erythematous plaque on dorsum of hand.**



**Figure 2: Kissing lesion in cubital fossa.**

Forty two patients (78%) presented with linear erythematous plaques with or without vesiculation (Figure 1). Kissing lesions were seen in 6 patients (Figure 2). Majority of patients (83%) had burning sensation at

the site of the lesions. Systemic symptoms like fever and malaise were not seen (Table 2).

All patients responded well to therapy. Residual pigmentation was seen in majority of patients (92%).

**DISCUSSION**

Blister beetle dermatitis is an irritant dermatitis caused by three families of beetles of the order *Coleoptera*: *Staphylinidae*, *Meloidae* and *Oedemeridae*. *Paederus* beetles belong to the largest of the three families, *Staphylinidae* (rove beetles).<sup>2</sup> The common species of paederus beetles seen in india include *Paederus melampus* and *Paederus fuscipes*.<sup>1,3</sup> These beetles are attracted to artificial light and they breed in damp areas. Maximum cases are seen during the months of May to July. *Paederus* contain a vesicant called pederin whereas beetles belonging to *Meloidae* and *Oedemeridae* contain canthradin.<sup>4,5</sup> When the beetles get crushed on the skin, the vesicant gets released resulting in irritant contact dermatitis. Exposed areas of the body such as face, neck and arms are commonly affected. In our study face was commonly affected followed by neck and upper limb. Similar observations were seen in studies by Toppo et al and Cáceres et al.<sup>6,7</sup>

The patient usually develops linear erythematous plaque with associated burning sensation. Patients may also present with vesicles, pustules or bullae mimicking impetigo or herpes infection and kissing lesions in flexures. Similar presentation was seen in our study. BBD can also mimic burns, phytophotodermatitis or cellulitis.<sup>8</sup> Eye involvement can occur due to direct contact or passive transfer of toxin.<sup>9</sup> The lesions usually subside in a week with exfoliation and residual pigmentation as seen in our study. Immediate treatment includes washing with soap and water, application of tincture iodine and oral antihistamines. Calamine lotion, topical steroid with or without antibiotic can be used. Oral antibiotics and systemic corticosteroids are reserved for severe cases.

To prevent new cases the following measures are recommended.<sup>2,4</sup>

1. Awareness about BBD and to recognise the beetles.
2. Avoid crushing of beetles on skin and gently remove them.
3. Regular sprays of insect repellants (Malathion 50% and Baygon 20%) on infested land.
4. Close windows before switching on artificial lights in the evening and use insect screens on windows.
5. Place nets under lights and avoid sleeping under fluorescent lights.

**CONCLUSION**

Blister beetle dermatitis is a common problem in tropical countries like India. Awareness about the condition and

early diagnosis and treatment will help to reduce the distress and complications like post-inflammatory pigmentation.

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