

Clinical Patterns in Insect Bite Dermatitis

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ABSTRACT

Aim: Insect bite reactions on human skin receive less attention. Arthropods produce an injury to the skin by variety of mechanisms of which one or more may be involved in a patient.

Materials and Methods: The study was carried out in the Dermatology OPD of our institute on 111 subjects of insect bite dermatitis who were questioned retrospectively about the sequence of events besides their living and environmental conditions.

Results and Conclusions: It was noted that insect bite dermatitis has no gender or age preponderance. However, risk factors were found to be areas with heavy insect manifestations, certain occupations humid conditions and people keeping their windows open at night.

Keywords: Insect bite, dermatitis, papular urticaria

INTRODUCTION

The large number of biting arthropods and the varied range of the patients reactions to them result in a wide spectrum of clinical manifestations. There are a number of common clinical features occurring in patients with an acquired sensitivity to insect bites, which are considered together as ONE syndrome called as Papular Urticaria.^[2,7] Insects can be distinguished from other arthropods by the presence of 3 body segments- a pair of compound eyes, paired antennae and 6 legs.^[1] Arthropods produce an injury to the skin by a variety of mechanisms.^[2] The important species that molest man belong to 4 families- Apidae, Bombidae(bees), Vespidae(wasps) and Formicide(ants).^[5] Certain occupations may carry an increased risk of reactions to arthropods like forestry workers, mountain hikers, farmers and people involved in outdoor activities.^[3, 4]

MATERIALS AND METHODS

The study was conducted on 9,312 routine patients visiting DVL out patient department of our institute which included 111 patients of insect bite dermatitis which is spanned over the period of 6 months- January 2014 to July 2014. All the patients visiting the DVL out patient department, were assessed for insect bite reactions with the below criterias. Exclusion criteria- patients with DM, HTN and pregnant woman. Inclusion criteria- all patients coming to DVL op, informed consent.

RESULTS

Patients varied widely to the response of insect bite of different species but there was a high degree of similarity. It was highly difficult to identify the responsible species for the dermatitis on the clinical appearance of the lesions.

Chief complaints were itching, burning and pain 22%, 13%, 7% in males and 34%, 17%, 11% in females respectively. The gender distribution of the insect bite reactions was 42% and 58% for males and females respectively. [Table 1]

Table 1: Gender %

Gender	Percentage
Males	42%
Females	58%

Itching was the chief symptom that was complained by majority of the patients and the most common sites were exposed areas of the skin like face, neck, hands and legs. [Table 2]

Table 2: Site involvement with complaints

Complaints	Face	Neck	Hands	Legs
Itching	18	11	19	03
Burning	06	03	0	0
Pain	03	06	01	0

Most of the patients slept on the floor instead of beds. And did not use any protective measures like repellents(80%), mosquito nets(90%) and kept the windows open at night(72%).

The surroundings the patients home had plants and trees (58%) and agricultural fields(42%) also.

The suspected time of insect bite in majority of the cases was at night (82%) while sleeping. Morning time was 12% and noon to evening time was 6%.

Family history of insect bite dermatitis was reported in 18% of the cases. Prior history of treatment before coming to our opd was seen in 10% of the patients.

Majority of the patients had erythema [Figure 1], pustules [Figure 2], vesicles, crusting and bullae [Figure 3] over the site of insect bite dermatitis. Distribution of the lesions in insect bite dermatitis was seen as shown in Table 3.

Table 3: Lesions distribution

Morphology	Distribution
Erythema	72
Pustules	09
Vesicles	11
Papulovesicle	12
Crusting	04
Bullae	03

In some patients, bilateral symmetry of the lesions was

noted but majority of the reported lesions were unilateral. A few patients showed kissing type [Figure 4] of lesions (8%). Paediatric patients [Figure 5] were 13% compared to the adult patients.

The ratio of male and female in insect bite dermatitis was 45% and 55% respectively.

Majority of the patients had discrete configuration of lesions. Table 4

Table 4: Lesions Configuration

Configuration	Male	Female
Linear	14	21
Grouped	23	33
Discrete	07	13
Total	44	67



Figure 1: Erythema crusting over the neck



Figure 2: Showing pustules over the nose



Figure 3: Bullous lesions in responsible to arthropod bites



Figure 4: Erythema over the cubital fossa kissing bite form



Figure 5: Erythema papules in neck following insect bite reaction.

DISCUSSION

The class Insecta, contains several orders of medical importance-Anoplura(lice), Diptera (flies & mosquitoes),^[9] Coleoptera (beetles), Hemiptera(bed bugs, kissing bugs), Siphonaptera(fleas), Hymenoptera (butterflies & moths). Although many arthropod attacks produce only mild, transient cutaneous changes, more severe, local and systemic sequelae can occur, including potentially fatal toxic and anaphylactic reactions. Anaphylaxis is a dreaded complication of insect bite dermatitis, requiring immediate attention.^[3]

Moisture, warmth, lactic acid in sweat are found to attract insects.^[5] Insect bite dermatitis needs to be differentiated from other dermatological conditions like atopic dermatitis, contact dermatitis, impetigo, mycosis fungoides, scabies.^[6] In a country like India, especially in rural areas, surveys found that people choose to follow home remedies or simply ignore it rather than approach a medical set up, unless it does not heal or aggravates.^[8] Certain occupations may carry increased risk of reactions., Eg: forestry workers, shepherds, trekking guides etc.

Although insect bite dermatitis are mostly transient, sometimes papules and nodules persist for a longer time due to unrestrained scratching. The morphology of the lesions vary with the causative agent. Many beetle species contain chemicals that cause blistering over the skin.

We would like to conclude the study with certain facts such as insect bite reactions have no age and gender prevalence. The usual sites of the dermatitis are the exposed areas of the skin. The morphology of lesions was grouped rather than linear or discrete. The clinical pattern of the lesions were mostly erythematous followed by others. Prevention from insect bite dermatitis can be achieved by protective clothing, insecticide sprays, repellants.

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