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Original Article

A Clinical Study of Allergic Contact Dermatitis

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Abstract

This study was done in the outpatient department of Rajshahi Medical College Hospital from April 2005 to March 2006. In this study the clinical patterns of allergic contact dermatitis and their causative allergic products was studied. Out of 50 patients, 34(68%) were female and 16(32%) were male. The study shows that the clinical patterns of allergic contact dermatitis are eczema 24(48%), hyperpigmentation 14(28%), urticaria 6(12%), acneform eruption 04(08%) and hypopigmentation 02(04%). Allergic products causing allergic contact dermatitis was cosmetics 20(40%), shoe 08(16%), clothing 06(12%), occupation 05(10%) adhesive 04(08%), metals & metal salts 04(08%) topical drugs 02(04%) and rubber gloves 01(02%).

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Introduction

Allergic contact dermatitis is a delayed type of cell mediated hypersensitivity.[1,2,3,18] The antigens or haptens are taken up by the Langerhan's cells, which processes them and migrate from the epidermis to draining lymphnodes and presents the antigen to T helper lymphocytes. T helper lymphocytes become sensitized to the antigen, multiply and circulate as memory cell in the blood stream, ready to react with the antigen if they encounter it.[18,19] Thus the skin is sensitized. Allergic contact dermatitis results when an antigen comes into contact with the previously sensitized skin. The allergens are extremely varied and may be non protein in nature.[18,19] Many substances, such as dyes and their intermediates, oils, resins, coal tar derivatives, chemicals used for fabrics, rubbers, cosmetics, insecticides, cement, nickel and plants.[1,2,3,4,18] They are present in skin care products, hair product and other cosmetics, clothings, adhesives, shoe and ornaments. The allergic contact dermatitis usually clinically presents with eczema, urticaria, hyperpigmentation, hypo- pigmentation, acneform eruptions and nail dystrophy. Neomycin, bacitracin are well known for dermatitis medicamentosa.[10,11] Topical corticosteroid should be suspected as a cause of allergic contact dermatitis if a chronic eczema fails to respond to topical steroid.[11,12]

Materials and Methods

Fifty allergic contact dermatitis patients attending Rajshahi Medical College Hospital, Skin & V.D. outdoor from April 2005 to March 2006 were included in the study. The sample was collected by simple random sampling methods. Diagnosis of the patients were done by the expertise opinions of the author, from the clinical features of the patients, detailed history including physical contacts with allergic products, cosmetics, apparel and jewellary, occupation, hobbies and medicaments. The data was compiled and results analyzed.

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Results

Out of 50 patients of the age group 10 to 69 years, 34 (68%) female and 16(32%) male were clinically diagnosed. The clinical patterns of allergic contact dermatitis revealed from the study was eczema 24(48%), hyperpigmentation 14(28%), urticaria 06(12%), acneform eruptions 04(8%) and hypo- pigmentation 02(04%). It is evident from this study that the allergic products causing allergic contact dermatitis was due to cosmetics 20(40%), shoe 08(16%), clothing 06(12%), occupation 05(10%), adhesive 04(08%), metals and metal salts 04(08%), topical drugs 02(04%) and rubber gloves 01(02%).

Table -I. Age distribution of the patients (n=50)

Age	No. of patient	Percentage
0-9	02	04%
10-19	12	24%
20-29	20	40%
30-39	07	14%
40-49	04	08%
50-59	03	06%
60-69	02	04%
70 & above	0	0%

Table -II. Sex of the patients with ratio (n=50)

Sex	No. of patient	Percentage	Ratio
Female	34	68%	
Male	16	32%	F:M=2.12:1

Table -III. Allergic product causing contact dermatitis

	Allergic Product	No. of the patient	Percentage
1	Cosmetics	20	40%
2	Shoe	08	16%
3	Clothing	06	12%
4	Occupation (Pesticides, wood preservative)	05	10%
5	Adhesive (glue, germs, resins)	04	08%
6	Metals & metal salts (Nickel, chromate)	04	08%
7.	Topical drugs (Neomycin, bacitracin, steroid)	02	04%
8.	Rubber gloves	01	02%

Table -IV Clinical patterns Allergic contact dermatitis

	Clinical patterns	No. of patients	Percentage
1	Eczema	24	48%
2	Hyperpigmentation	14	28%
3	Urticaria	06	12%
4	Acneform eruption	04	08%
5	Hypopigmentation	02	04%

Discussion

The present study provides various clinical patterns of allergic contact dermatitis. The prevalence of allergic contact dermatitis in the general population is not known. There are many easily recognizable patterns e.g. eczema of the earlobes, wrists and back due to contact with nickel in costume jewellery, watches and bra clips ; or eczema of the hands and wrist due to rubber gloves. Oedema of the lax skin of the eyelids and genitalia is a frequent concomitant of allergic contact dermatitis.[1,16,18] Allergic products found in this study are cosmetics (40%), shoe (16%), clothing (12%), occupation (10%), adhesive (8%), metal & metal salts (8%), and rubber gloves 2%. The percentage varies from country to country due

to their life style, costume, occupational exposure and hobbies.[13, 18] Typical cases of dermatitis of external origin present with erythema, vesiculation and linear lesion within scratch marks. The skill of the dermatologist, prolong observation of both doctors and patients require for correct diagnosis.[7, 8,18] Sometime complete avoidance of allergic substance is impossible. Topical medication like neomycin, bacitracin should be avoided. Allergic contact sensitivity to steroid may be acquired. The usual clinical situation in which an allergic reaction to topical steroid should be suspected as a cause of allergic contact dematitis if a chronic eczema fails to respond to topical steroid. [11,12] In some instances secondary bacterial infection are super imposed on allergic contact dermatitis.

Conclusion

Allergic contact dermatitis clinically present in various patterns and sometimes present in unusual clinical forms, which may evoke an erroneous diagnosis. Topical medication with neomycin, bacitracin and corticosteroids sometimes causes allergic contact dermatitis which may be overlooked and responsible for the chronicity of the disease.

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