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Clinical Pattern and Common Contact Sensitizers in Contact Dermatitis

KEYWORDS: Contact dermatitis, Mercaptobenzothiazole

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ABSTRACT *Aim: Aim of the study was to find out the pattern and common contact sensitizers of contact dermatitis.*

Materials and methods: Hundred clinically diagnosed cases of contact dermatitis were assessed and subjected to patch testing. The reading was taken at the end of 48 hrs. The results were analyzed. Results: Sixty were females and 40 were males. Majority (30%) belonged to the age group 31-40yrs.Itching (80%) and scaling (50%) were the predominant symptoms. Soaps and detergents (16%) and the foot wear (14%) were the commonest exacerbating factors noted. Dorsum of the feet (42%) and dorsum of the hands (22%) were the commonest sites affected. Allergic contact dermatitis to foot wear (40%), soaps and detergents (26%) and phytodermatitis (10%) were the common clinical pattern observed. Patch test was positive for 42% of patients. Mercaptobenzothiazole (18%), potassium dichromate (12%) and epoxy resin (8%) were the commonest allergens noted. Conclusion: In our study allergic contact dermatitis was seen commonly in females. Dorsum of the feet is the predominant site. Allergic contact dermatitis to foot wear is the commonest pattern noted and mercaptobenzothiazole is the commonest allergen noted.

INTRODUCTION

Significant number of patients attending the skin outpatients department comprise of cases of dermatitis. A variety of substances are responsible for the contact dermatitis. These include articles commonly used in day today living; like foot wear, soap, detergents, cosmetics, topical medicaments, various chemicals used in the industry and other substances in the environment. In the wake of increasing sophistication in the way of living and the rapid industrialization that is taking place, the human race is exposed to ever increasing number of sensitizers in its environment. The incidence of contact dermatitis and the types of offending allergens vary from country to country. These variations depend upon the differences in the mode of life, social habits and extent of industrialization. The present study was undertaken with an aim to find out the pattern of contact dermatitis in and around Mangalore and the various allergens responsible for it.

MATERIALS AND METHODS

100 clinically diagnosed cases of contact dermatitis were assessed. Detailed history regarding the occupation, duration of the dermatitis, atopy, exacerbating factors was taken in each case. All the cases were diagnosed on the basis of history and clinical examination. Cases were subjected to patch tests using the antigens provided in the Indian Standard Series recommended by the Contact and Occupational Contact Dermatitis Forum of India. The reading was taken at the end of 48hrs.Results were analyzed.

OBSERVATIONS AND RESULTS

100 patients, (60maes and 40 females) suspected to be having contact dermatitis were taken into study. The age and sex distribution of the cases is given in Table-1.

Majority (30%) belong to the age group 31-40yrs. The youngest being 11yrs and the oldest being 68yrs.Itching (80%), scaling (50%), erythema and fissuring (8%) each, pigmentation (6%) and vesicles (4%). The duration of dermatitis varied from less than 1year to more than 10 years, with a maximum number of patients (64%) between 1-5yrs.Only 14% of patients gave a history of seasonal variation. History of atopy was present in 28% of patients. 44% noted some exacerbating factors. The commonest exacerbating factors noted were, soaps and detergents (16%), foot wear (14%), house dust (4%), sweating, cement, watch strap, sunlight& dental filling (2% each).The common sites involved with dermatitis are dorsum of the feet (42%), dorsum of the hands (22%), palms (18%), trunk and soles (12% each), fore arms and arms (8%). The clinical pattern of dermatitis is as shown in the Table-II

Patch test was done in all 100 patients. It was found to be positive in 16% of males and 26% females. The allergens found to be positive is as shown in Table-III

Some patients were positive for more than one allergens. Mercaptobenzothiazole (18%), Potassium Dichromate (12%) and Epoxy resine (8%) were the commonest allergens noted.

DISCUSSION

Contact dermatitis is a multifactor disease. It may be preceded or precipitated by irritant effect of soaps and detergents and repeated washings. Allergic contact dermatitis can be caused by variety of substances depending upon person's occupation, hobbies, surroundings and treatment taken.

In our study females outnumbered males which is quite opposite to the results seen in a study in Delhi[1] where males outnumbered females. No case was seen below 10yrs of age. This is in confirmatory with the fact that all allergic disorders are much less common in the younger age group probably because of the lack of previous exposure[1].

Contact dermatitis to topical antibiotics and preservatives was not noted in our study. But it was one of the major cause of iotrogenically induced dermatitis in previous studies[2,3,4]. Prolonged needless usage is possibly responsible for antibiotic sensitivity. Mercaptobenzothiazole was the commonest sensitizer noted in our study. But other reports[2,5,6,7] say that nickel was the most frequent sensitizer encountered. Contact dermatitis to nickel and rubber have maintained their ranking amongst the common sensitizers, though the sources of their release have changed from time to time with changing social and cultural environment.

CONCLUSION

Patch testing is an important test in all the cases of contact dermatitis, as the allergen responsible for contact dermatitis should be found out and eliminated to get a complete cure from the problem. From the present study we can say that antigen causing contact dermatitis vary from place to place depending on the occupation, social culture, industrialization etc. So along with the detailed history and a high degree of suspicion, patch test also should be performed in all clinically

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suspected cases of contact dermatitis.

TABLE-1
AGE AND SEX DISTRIBUTION OF THE PATIENTS

AGE IN YEARS	MALE	FEMALE	TOTAL
1-10	0	0	0
11-20	2	18	20
21-30	6	20	26
31-40	18	12	30
41-50	6	6	12
51-60	4	4	8
61-70	4	0	4

TABLE-II
CLINICAL PATTERN OF CONTACT DERMATITIS

DIAGNOSIS	MALES	FEMALES	TOTAL
Irritant contact dermatitis	2	2	4
ACD to foot wear	14	26	40
ACD to soaps and detergents	2	24	26
ACD to artificial jewellery	0	2	2
Phytodermatitis	8	6	14
ACD to Cement	8	0	8
ACD to Nickel	4	0	4
ACD to Dental Materials	2	0	2

TABLE-III
ALLERGENS SHOWING POSITIVE RESULTS

ALLERGENS	MALES	FEMALES	TOTAL
Mercaptobenzothiazole	6	12	18
Potassium Dichromate	6	6	12
Epoxyresine	4	4	8
Cobalt Chloride	0	6	6
Phenelenediamine	0	6	6
Quaternium 15	2	2	4
4Chloro 3 Cresol	0	4	4
Wool Alcohol	0	4	4
Nickel Sulfate	4	0	4
Colophony	0	4	4
PPD	0	2	2
Trichlorosan	0	2	2
Triethanolamine	0	2	2
Lanoline	0	2	2
Thiuram Mix	0	2	2
Balsum of Peru	0	2	2
Farmaldehyde	0	2	2
Paraben	0	4	4
Fragrance Mix	2	2	4

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