

THE NATURE OF ALLERGIC AND ECZEMATOUS DERMATOSES IN A SKIN DEPARTMENT IN BOMBAY *

By

S. C. DESAI, M. W. DHURANDHAR and R. N. PATNAIK

Cutaneous manifestations of allergy and eczematous dermatitis constitute difficult problems in dermatology because of the diverse causes underlying allergic diseases, variegated clinical pictures and varying prognosis of the different clinical types. In a large out-patients' service with more than 60,000 attendance per year and managed by a shortage of staff, detailed investigations of the causes of dermatitis and eczema are not yet possible. Proper appreciation of allergy problem is further vitiated by a large number of patient lapses and inadequate follow-up. Because of these inherent difficulties, we thought that a clinical survey based on a uniform nomenclature of allergic and eczematous dermatoses should be the first step to assess the nature of this problem in our population and help in planning further investigative facilities. In this paper we propose to offer a classification of the types of allergic and eczematous dermatoses based on our approach and experience and the results of a survey of these problems.

It is important for a clinician to remember that the term "allergy" connotes a "process" underlying the disease and does not signify a causal diagnosis. Initial steps required for an understanding of the genesis of allergy in a particular patient are intelligent and detailed history and familiarity with many clinical types of allergy. Both of these steps are interdependent, as the latter aids pointed history taking in several cases, because, the genesis of a particular type of allergy may be obvious by its clinical picture (e. g. contact and drug allergy, bacterial eczema and atopy). The next step for the clinical assessment is to try to ascertain if the exposure to allergens is brought about by external contact or from within systemically. In many patients, though not in all, one can guess this by a consideration of the abovementioned steps of history, clinical pictures of different types of allergy, location and evolution of the disease. By such an approach, we have classified different types of allergy mentioned in the texts of dermatology in the following table so as to help standardize our clinical diagnosis,

TABLE I (attached)

Without going into detailed considerations of the abovementioned types of allergy and eczema in this paper, we shall report on the nature of these dermatoses studied by us in the in-patients, and give a bird's eye-view of this problem as seen in the out-patients. The case material pertains to a period of two years

From the Department of Dermatology and Venereology, K. E. M. Hospital and G. S. medical College, Parel, Bombay - 12.

(Chief; Dr. S. C. Desai)

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1959-1961 for the in-patients group and for a period of one year viz , 1959-1960 for the out-patients when we started the scheme for detailed clinical processing of allergic and eczematous dermatoses.

TABLE I: CLASSIFICATION OF DERMATITIS OF ALLERGIC AND ECZEMATOUS NATURE

Allergens Suspected to Operate	
Internally	Externally
<i>Types of Dermatoses</i>	<i>Types of Dermatoses</i>
I. <i>Atopic Group</i> : (a) Eczema of infants. (b) Prurigo. (c) Dermatitis of Adults	I. Contact Dermatitis. (e. g. chemical, plant and animal contactants)
II. <i>Non-Atopic Systemic Group</i> : (i) Anaphylactoid reaction. (e. g. serum and penicillin deaths) (ii) Serum reactions. (iii) Drug reactions. (iv) Urticaria. (v) Prurigo. (vi) Food allergy. (vii) Allergy to abnormal metabolites. (e. g. liver diseases, malignancy, seborrhoeic eczema) (viii) Parasitic allergy. (e. g. caused by bacteria, viruses, helminths etc.) (ix) Nummular eczema. (x) Id reactions. (xi) Dyschromic discoid dermatitis. (xii) Neurodermatitis circumscripta.	II. Parasitic Eczema. (e. g. Bacteria, Fungi, Arthropods).
	Combinations of Internal and External routes of Causation.

Allergy Problem in the In-patients : Since the in-patients could be more thoroughly investigated and followed, a more accurate understanding of the nature of this problem was achieved than with the large number of cases in the out-patients service. The following analysis of 150 cases in Table 2 brings out essentially the nature of severe and disabling nature of allergic and eczematous dermatoses which require hospitalization.

TABLE 2: NATURE OF ALLERGY IN 150 IN-PATIENTS

	Allergens Suspected to Operate From			
	Internally	No. of cases	Externally	No. of cases
Drugs		35	Physical (solar dermatitis)	1
Atopy		9	<i>Chemicals</i>	39
Possibly microbial		6	Industrial contactants	7
			Drugs	24
Foods		2	Dye from wearing apparel	2
			Household disinfectants	1
Unknown		19	Cosmetics and soaps	5
Other factors (stasis)		3	Microbial (mostly bacterial)	36
		<u>74</u>		<u>76</u>

Allergic sensitization brought about via external route was suspected in 76 cases and by systemic route in 74 cases. In the former group chemical and bacterial sensitization were the main causes and were suspected in 39 and 36 subjects respectively. A high percentage of cases of suspected bacterial sensitization resulted from pyoderma (boils, folliculitis, ulcers, infected cuts and wounds etc.) which ended in secondary sensitization and eczematization. These patients usually respond well to anti-eczematous and antibiotic therapy. In the group of chemical sensitization the offending agents were industrial contactants in 7 cases, dyes from dress in 2 cases, disinfectant spray (flit) in one case, and sensitization due to cosmetics and soaps in 5 cases. Sensitization to topically applied medications accounted for 24 cases, the details of which appear in Table 3.

In the group in which the allergens were suspected to operate internally, there were 9 cases of atopic dermatitis, 6 cases of generalised bacterial eczema, possibly from internal foci, 3 cases of eczema following stasis, and 2 cases where food allergy was suspected. In 19 patients the internal allergens could not be elucidated. Systemically administered drugs were responsible for 35 cases and showed the importance of iatrogenic disease as a major factor in this group. It should, however, be mentioned that this may be considered a small number of subjects out of thousands of patients treated by various drugs. In Table 3, we have listed the drugs found to be responsible for skin reactions in our experience.

TABLE 3: DRUGS AS ALLERGENS IN THE IN-PATIENTS

By systemic administration in				By topical application in			
35 cases				24 cases			
A. T. S.	7	Anacin	1	Chrysarobin	4	Mustard oil	1
Penicillin	7	Aspro	1	Coal tar	2	Adhesive	1
Sulpha	8	Reserpine	1	Anthralin	2	Turpentine	1
Streptomycin	2	Phenolphthaline	1	D. D. T.	1	Xylocaine	1
Luminal	3	Unknown	2			Proprietary remedies	11
Procaine	2						

Serum, penicillin and sulpha drugs seem to be the main systemic sensitizing agents and suggest cautions required in their use. The nature of offending topical agents lists the potentially irritating remedies of dermatologic use. A detailed consideration of our experiences in patch testing for contact-sensitizing allergens is published elsewhere.¹

Clinical features of cases requiring admission are summarized in Table 4.

TABLE 4 : CLINICAL FEATURES OF DISABLING AND SEVERE ALLERGY

History		Distribution		Lesions
First attack only	80	Generalized	105	Acute 60
Recurrent attacks	70	Localised	45	Subacute 67
Personal history of allergy	14			Chronic 23
Family history of allergy	16			

It will be seen that approximately 50 per cent of cases get recurrent attacks of allergy giving rise to considerable disability as the lesions were generalized in 105 out of 150 subjects. Familial or personal history of allergy was obtained in 30 out of 150 cases and shows the importance of the allergic diathesis as a factor in the genesis of severe allergy. Hence this inquiry may prove worthwhile in prevention of industrial dermatitis at least in a sizeable number of subjects.

Results of routine investigations such as blood count, urine and stool examinations and a search for septic foci are given in the following table and require no further comments.

TABLE 5 : INVESTIGATIONS

<i>Blood</i>		<i>Septic Foci</i>	
Leucocytosis (above 10,000 c.mm.)	50	Teeth	20
Eosinophilia	22	Tonsil	5
Leucocytosis eosinophilia	11	Ear	4
Stool : Helminths	19	Lungs	2
Protozoa	2	Kidney	1

Allergic and Eczematous Dermatoses in the Out-Patients: Allergy and eczematous dermatoses accounted for 11.8 per cent of the new patients attendance in our experience.² Due to lapses in patient attendance and inadequate follow-up, only one-third of 3,559 patients could be classified by us as tabulated below.

TABLE 6 : ALLERGIC AND ECZEMATOUS DISORDERS AT THE OUT-PATIENTS DEPARTMENT DURING ONE YEAR.

Total cases of allergic and eczematous dermatoses	...	3,559 cases.
Number of cases classified	1,238 ..

Allergens suspected to operate by:	External route in	430 cases.
	Internal route in	612 „
Seborrhoeic eczema	196 „

Although the nosological position of seborrhoeic eczema is debatable, we have included this disease in this group to give a comparative idea of the incidence of its morbidity. This identity did not appear in the inpatients group as these cases did not have grave disability requiring admission. Allergens operating by external contacts were suspected in 430 cases (32 per cent) and internally in 612 cases (47 per cent).

The nature of allergic dermatoses is brought out in the table below.

TABLE 7: ALLERGIC DERMATOSERS IN THE OUT-PATIENTS

	Allergens Suspected to Operate From			
	Internally	612 cases		Externally
Localised or disseminate			Physical allergens	3
Lichen Simplex Chronicus		218	Chemical allergens	306
Urticaria		165	Primary irritants	35
Prurigo		95	<i>Parasitic allergy:</i>	
Drugs		60	Arthropods	7
Eczema in infants		22	Fungi	17
Nummular eczema		17	Bacteria	62
Atopy		12		
Discoid dyschromic dermatitis		7		
Undiagnosed		18		

Majority of cases of allergy from the external route of sensitization were due to chemical contactants. These were suspected in 306 cases, and constitute 74 per cent of the cases in this group. This high incidence reflects the increasing number of chemicals and synthetic materials used in modern life. A further consideration of the nature of these contactants will appear elsewhere.⁸

Parasitic allergy due to infections with arthropods, fungi and bacteria was suspected in 86 cases, of which bacterial sensitization accounts for 62 cases. There were very few cases of physical allergy under which category we have included cases of solar sensitization. It is noteworthy that we have not come across of contact dermatitis due to plants, probably because of less opportunity for this sensitization in the urban surroundings of Bombay.

Out of systemically operative allergic sensitization suspected in 612 cases localized or disseminated lichen simplex chronicus was found in 218 cases. Urticarial type of allergy accounted for 165 cases and was the second most common diagnosis in this group. Ninety-three cases were diagnosed as prurigo majority of whom were the children. Drugs accounted for 60 cases out of which anti-tetanus serum alone was responsible for 22 cases. The rest of the list shows

comparatively types of allergic dermatoses in our experience viz., 22 cases of eczema in infants, 17 cases of nummular eczema, 12 cases of atopic dermatitis and 7 cases of discoid dyschromic dermatitis.

DISCUSSION

Reliable information and statistical data on the nature of allergic and eczematous dermatoses in the Indian population are not yet available to our knowledge. In an ecologic survey of the nature of skin and venereal diseases in India, one of us (S. C. D) got information that the incidence of allergic and eczematous dermatoses varied from 10 to 28 per cent of the skin diseases in six different institutions replying to our questionnaire⁴. Further, no detailed comparison of the nature of this problem was possible because of a lack of uniform nomenclature of diagnostic approaches. The incidence and the nature of allergic dermatoses have to be viewed on the background of factors such as the racial susceptibilities, environmental and climatological considerations, nutrition, and opportunities for exposure to different allergens both by the topical and the systemic routes. Thus, it was also brought out in the above paper that allergy and eczema account for a higher morbidity, 22 per cent in the private practice than in the hospital practice. In this context, Marshall's⁵ review of the data on the ecology of dermatoses in the different population groups brings out interesting by similar data that the incidence of eczema and allergy vary from 10-27 per cent with the higher incidence in the urban group.

As mentioned at the outset, the picture of the different types of allergy and eczema which we have presented here is a "bird's eyeview" with many clinical generalizations. It may vary in details on better organizational and investigative approaches of the dermatological services which upto now were only of the "table-and-chair" type, without proper investigative facilities.

The other difficulty in assessing the correct situation of this problem arises due to the differences in the "allergy vocabulary" of the dermatologists. Clear cut comparisons of data from the different clinics may be made only for some of the conditions such as urticaria, contact dermatitis, atopic dermatitis or primary irritant dermatitis. Here it is necessary for each worker to define and clarify his own approach to allergy. We hope that this paper may serve the purpose of unifying the terminologic and diagnostic approach of our colleagues who should define their terminology and diagnostic criteria of the disease identities such as prurigo, nummular and bacterial eczema, neurodermatitis, and infantile eczema and seborrhoeic eczema. Although most dermatologists use these terms often, it is our impression that everyone has a different conception of these disease identities and this difficulty is also reflected in the differences of approach to this subject in the different textbooks of dermatology. Taking into account these inherent drawbacks, certain generalizations which derive from our experiences may be permitted and are as follows.

Incidence : The incidence of allergy in a public hospital out-patients service in Bombay is approximately 15 per cent.

Allergic diathesis : was observed in 20 per cent of cases of severe and disabling allergic dermatoses which required prolonged in-patients care.

Nature of allergy : Major types of allergy problems to contend with are those of chemical and drug allergy (both internal and external sensitization) and bacterial sensitization allergy. It is our impression that the incidence of bacterial sensitization eczema is higher in the poor population groups attending the hospital out-patient than in the private practice and reflect the problems of poor hygiene and nutrition in addition to individual sensitization potential. Our data on the detailed considerations of the group of chemical contact sensitization show comparatively less pronounced problem of industrial dermatitis than observed in the Europeans. Drugs for topical applications, and chemicals in cosmetics and household articles accounted for contact sensitizations in equal proportions.³ Atopy and nummular eczema seem to be rare in our subjects. Localized or disseminated types of lichen simplex chronicus, prurigo, and seborrhoeic eczema occur frequently. Urticarial allergy is of frequent occurrence and generally clears up in short time in majority of cases. Problems of chronic urticaria—although seen from time to time—are not common. Cases of eczema in infancy and childhood (we do not use the term “infantile eczema” as we consider no eczema—but our attitude to it—as “infantile”) were seen infrequently in our material but this is because many cases probably attend adjoining children’s hospital.

In conclusion, we feel that it is imperative to establish allergy clinic in large public hospitals where proper diagnostic, investigative and therapeutic facilities may be organized to tackle these problems. Comparisons of data deriving from such clinics only will result in a proper understanding of this problem in our population which is likely to vary in its nature from that under the European circumstances.

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