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CLINICAL ARTICLES

A STUDY OF 70 CASES OF DRUG ERUPTIONS

By

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"No new idea was ever born in a conference,
May an old idea has died at a conference".

The purpose of this study, is not to present any new concept on drug eruptions but to put into proper perspective some of our old ideas on Drug Reactions. In the past, syphilis was well known to mimic diverse clinical manifestations. Today, so diverse are the clinical manifestations of reactions to drugs and other chemicals that, with the exception of a very limited number of distinctive patterns of reaction, it is seldom possible to assert dogmatically that any syndrome is or is not of chemical origin. The reactions to most drugs, and in particular the multitude with an allergic basis, are non specific.

70 cases of Drug Eruptions were studied in detail in the Department of Dermatology and Venereology at the Nair Hospital, Bombay.

These cases were collected during a period of one year.

TABLE No. 1

A study of 70 cases of drug eruption.

Total No. of Cases	70
Males	49
Females	21
Males: Females	7:3
M:F in Total O.P.D. Attendance	9:3
Incidence	1% of Total O.P.D. Attendance

Of these 70 cases, 49 were males, 21 females, giving a ratio of 7:3, compared with the M/F ratio of 9:3 of the hospital attendance, *the sex incidence was equal and comparable*. The drug eruption incidence was 1% of the total O. P. D. attendance. The % is low, as mild and transitory eruptions have often been treated

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in the casualty department of the hospital. Western workers have put the incidence at 5-10% of patients admitted to a hospital as suffering from a drug reaction, mild or severe. Hence, the incidence of drug eruptions is difficult to determine, though it must be admitted, that they are the most frequent of all manifestations of drug sensitivity. Most estimates are inaccurate because many mild and transitory eruptions are not recorded and because skin changes of other origin are sometimes falsely attributed to drugs. Besides, the incidence of reactions is obviously related to the quantity prescribed. On a reaction per dose basis, penicillin has claimed pride of place; among the common drugs which on the same basis, rarely cause reactions, are aspirin and phenobarbitone.

Figure I

The minimum age incidence was 1 yr. and maximum 65 yrs. 6 cases presented up to the age of 10 yrs, 12 cases upto 20 yrs, 25 cases upto 30 yrs, 14 cases upto 40 yrs, 8 cases upto 50 yrs, and 4 cases beyond the age of 50 yrs.

Reactions are said to be less common in childhood, but they are not infrequent, and it is not yet established that any factor other than reduced opportunity for previous exposure to the drug can be implicated. Hence the low incidence in the pediatric age group. The maximum incidence of 40 cases (57%) was seen in the age group of 20-40 yrs. This could be due to two factors, one frequent medical administration of drugs and secondly due to self medication. The geriatric age group surprisingly showed only 4 cases above the age of 50 yrs. It was our impression, that this age group, subject to frequent medication, would show a rise in incidence, but this was not seen in this study.

The mode of administration of drug was studied, from the point of self medication and medically administered.

TABLE No. III
Modes of Administration

Sex	Self Medicated		Administered	
	Oral	Parenteral	Oral	Parenteral
Males	13	0	26	10
Females	8	0	9	3

21 cases of drugs eruptions presented were those of self medication i. e. 30% and 49 cases presented were due to medical administration of drugs i.e, 70%. Though the cases resulting in drug reactions were high due to medical administration of drugs, every practicing physician should be aware that any drug may be potentially capable of provoking abnormal reactions, and hence in every patient the risk of reactions must be weighed against the expected therapeutic benefit and the possible consequence of withholding the drug; as regards self medication of drugs, this practice should be discouraged, if not condemned.

TABLE No. III
Various Clinical Manifestations

Erythematous Macules	18	Pruritus	3
Hyperpigmented Macules	17	Erythema Multiforme	3
Maculo-Papular (Urticaria)	9	Stevens-Johnson's Syndrome	3
Haemorrhagic	6	Toxic Epidermal Necrolysis	2
Papules & Paposquamous	4	Exfoliative Dermatitis	1
Vesicles	4		

Clinical Features: There are few combinations of signs or symptoms which cannot be produced directly by a drug or a combination of drugs in the genetically susceptible subject. Fortunately some 95% of recognised reactions to drugs conform to a limited number of more or less well defined clinical patterns.

18 cases presented erythematous macules (exanthematic eruptions)—these were most frequently encountered, 17 cases - hyperpigmented macules (fixed eruptions), 9 cases urticarial, 6 haemorrhagic, 4 each of papulosquamous and vesicular nature, 3 cases presented with only pruritus and 8 cases with the erythema multiforme - Steven - Johnson - Toxic Epidermal Necrolysis picture. One case of Exfoliative Dermatitis

Thus a wide and varigated clinical pattern was encountered. As regards the erythema multiforme - Steven - Johnson - Toxic Epidermal Necrolysis Complex seen in 8 cases, the offending drug were sulphonamides in 4 cases, chloromycetin in 2 cases, aspirin in one case and penicillin one case.

The criteria for differentiation of the Erythema Multiforme, Steven-Johnson Syndrome and Lyell's Syndrome is summarised in the following *Table V*.

The next table shows the offending drugs responsible for drug eruptions.

TABLE No. IV

Drugs	No. of Males	No. of Females	Total
Sulphonamides	21	5	26
Aspirin	10	5	15
Penicillin	5	2	7
Streptomycin	3	1	4
Phenolphthalein	1	2	3
Phenylbutazone	1	1	2
Ephedrine	0	2	2
Thiacetazone	1	0	1
Chloramphenicol	0	1	1
Griseofulvin	1	0	1
Analgin	1	0	1
B-Complex	0	1	1
Baralgin	1	0	1
Bromides	1	0	1
Unknown	2	2	4

From this table, it can be seen that the major offenders were sulphonamides in 26 cases, aspirin in 15 cases, penicillin in 7 cases, streptomycin in 4 cases, phenolphthalein in 3 cases and the others as seen in the table.

It is essential to keep in mind, that familiar drugs may produce occasionally unfamiliar reactions and new drugs may mimic the reactions of the familiar. Hence, a diagnosis based on time relations and patterns of reactions is therefore necessarily no more than an assessment of probability. Unfortunately, this low level of diagnostic accuracy is often the best that can be achieved, since the confirmatory procedures, test dosing, skin testing and laboratory investigations, are, with a few important exceptions, either hazardous or unreliable.

TABLE NO. V

Criteria for Differentiation of E. M., S. J. S. & L. S.

Criteria	E. M.	S. J. S.	L. S.
Clinical	Maculo-Papular, Vesiculobullous, Iris Lesions.	Sudden Onset, Skin Vesicles, Conjunctivitis, Stomatitis, Involvement of Genitals.	Fever, Erythema, Vesicles & Bullae, Nikolsky's Sign + Ve Resembles Burns
Histology	Macular & Papular Spongiosis, Intracellular Oedema, Occasionally Spongiotic Vesicles. Bullous-Subepidermal Bulla	Sub-Epidermal Bulla, Detached Epidermis Shows Necrosis	Superficial Epidermis Shows Necrosis, Basal Layer & Skin Appendages Remain Intact. Dermis-Mild Congestive Changes
Prognosis	Good	Fair	Poor

E. M. :—ERYTHEMA MULTIFORME

S. J. S. :—STEVENS JOHNSON'S SYNDROME

L. S. :—LYELL'S SYNDROME

SUMMARY

1. 70 cases of drug eruptions were studied in detail. The sex incidence was equal. The incidence was 1% of the total O. P. D. attendance.

2. The maximum incidence of 40 cases (57%) was seen in the age group of 20-40 yrs. The pediatric & geriatric age group showed a low incidence.

3. 30% of cases presented were due to self medication and 70% due to medical administrations of drugs.

4. In this study, we were greatly impressed by the mimicking capacity of different drugs to imitate known nosological entities. This incidentally emphasises the need for proper history taking in each such case.

In conclusion, though this study has emphasised the hazardous clinical and laboratory problems of drug eruptions, we would not like to conclude on a pessimistic note. One is reminded of the words of Gowers namely—"If every drug in the world was abolished, a practicing clinician would still be a useful member of society".

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INDICATED IN

Rheumatic Arthritis...

Dexapred

TABLETS 0.5 mg.

INDICATIONS:

Rheumatic diseases, allergic conditions, bronchial asthma, dermatological and ocular disorders, renal and liver diseases, infectious diseases, malignant tumours and particularly in pericarditis and pericardial effusion.

DOSAGE:

Initial dose is 3 mg. daily or as directed by the Physician.

GUJARAT PHARMACEUTICAL & CHEMICAL WORKS
ASARWA AHMEDABAD II

