

FURTHER EXPERIENCES WITH PATCH TESTING IN SUSPECTED CASES OF CONTACT DERMATITIS

By

M. W. DHURANDHAR, Bombay.

INTRODUCTION

The aim of this article is to enlist and tabulate contact allergens in India. People in different countries have varied habits and environment. In India, habits and environment differ in various states as well as in different religions. We have to study the background of the patient and list the various contactants to run a battery of tests with the knowledge thus gained, after taking detailed history of the patient.

MATERIAL AND METHODS

Patch tests were done on 821 patients, suspected to be suffering from contact dermatitis seen over a period of 6 years. Only 208 patients gave positive reactions to one or more substances.

Only 3+ and 4+ readings were taken as positives. After doing a battery of tests, the positive tests were correlated with the history and clinical findings. In most of the cases that were followed up later on, reproduction of dermatitis clinically with the offending substance or substances occurred either inadvertently or purposefully. The recorded contactants giving positive reactions showed negative reaction in patients who did not come in contact with such substances, or in whom the dermatitis was due to some other substance.

The contactants have been divided into 5 groups according to the nature of the contactants.

RESULTS

The following table shows the different groups according to the nature of the contactants.

Industrial contactants	Medicaments	Cosmetics.	wearing apparel	House hold contactants
15	43	42	82	47

Some patients gave positive reactions to more than one substance.

DISCUSSIONS

Group I—INDUSTRIAL CONTACTANTS.

Binder	1		
Cutting Oil	1	Mobiloil	1
Kerosene	2	Greese	1
Crude Oil	1	Formaline	1
Machine Oil	1	Turpentine	2
Dyes	7		

(B—Naphthlamine, Dichloro—Nitrobenzene Metanitrochlorobenzene, Dinitrochlorobenzene Amido—Azo—Toluene Hydrochloride, Imperon P)

With the progressive industrialisation, workers are coming in contact with the various chemicals. With the introduction of Employment State Insurance Scheme in India, these workers are channelled to various ESIS centres. But there is no effort to find out the nature of the offending substances and the ways and means to find out and prevent the incidence of sensitization and exposures to these substances.

In K. E. M. Hospital, we handle only a few patients of industrial dermatitis. Only 2 patients were tested against dyes. Imperon P is a recent addition to dyes industry since 1961. Two patients gave positive reaction to Imperon P.

Group II—MEDICAMENTS

Anthraline	6	Multifungin	1
Acriflavine	1	Mercurochrome	2
Acid Boric	1	Novocaine	1
Benadryl	1	Neomycin	1
Burnol	1	Penicillin	6
Coal Tar	1	Paraldehyde	1
Dermo-Quinol	1	Sulfanilamide	5
Hydrar Oxidum Flav.	1	Sterosan	2
Hydrarg Amm.	1	Synopen	1
Iodine	5	Turpentine	2
Tinct. Benzoin	1	Xylocaine	1

In this group, 6 patients showed positive reaction to Dithranol compounds, which are strong sensitizers. However, sensitisation to these, happens to be one of the common causes of contact dermatitis, as most of the proprietary ringworm ointments on the market contain these compounds.

The patient sensitised to acid boric had dermatitis on his eyelid due to instillation of eye-drops.

One of the patients, who had dermatitis due to sulfanilamide ointment and who gave positive reaction to it, gave negative reaction to all other sulfa-compounds. However sensitisation to Sulfa-compounds and penicillin is not so common as reported in western countries.

Group III — COSMETICS

Kumkum	4	Pinjar	15
Wax	3	"Gandh"	14
Sandlewood	2	Henna	1
Paraphenenediamine	3		

The highest number of positive is given by "Kumkum" in this group. "Kumkum" on the centre of the forehead of women is not an uncommon cause of contact sensitisation due to various materials used in Kumkum.

The Hindu religion requires 'Kumkum' to be used compulsorily by a large section of people. It is also used as a cosmetic by some. 'Kumkum' is used in various forms

and goes by different names in local languages like 'Pinjar', which is a dry powder, used as such on wax; (2) Kumkum in various colours, either as powder or mixed with oil; (3) 'Gandh', which is put on the market under various names. The materials used are likely to differ. A patient sensitive to one Brand of 'Gandh' may or may not be able to use other brands, depending on sensitisation to the common or special material used in different brands. The composition of the different materials used is unknown.

Positive reactions were shown in 4 cases where Kumkum was used; in 14 cases where various brands of Gandh were used; in 15 patients, who used Pinjar, and 3 showed positive reaction to wax.

The hospital class of patients do not use cosmetics like lipstick, face lotions etc.

Group IV — WEARING APPAREL

Leather	27	Rubber	26
Plastic	2	Nylon	1
Canvass	5	Blue Cloth	9
Linen	1	Boot Polish	3
Potassium Dichromate	7	Glue	1

This group gave the highest number of positive reactions. The common foot-wear ('Chappal') worn by Indians has different types of straps. These cause dermatitis on the dorsi of the feet in a symmetrical band like fashion. In some cases, the positive reaction was to one or more than one material. Rubber foot-wear is worn commonly in monsoon for 4 months from June to September in Bombay and the patients wearing this gave history of recurrence of dermatitis during every monsoon.

Some of the cases of dermatitis due to blue cloth were seen in patients wearing policemen's uniform. One of them gave a very strong positive reaction with bulla formation. Whenever he used to put on the blue uniform, he used to get clinically bullae on the body. This was confirmed on different occasions after intervals of 6 months when the patient put on the uniform again. One was sensitised to blue brassiere as one to blue cotton socks.

The straps of ladies foot wear sometimes has more than one material.

Patients from dyes' factory have come with pigmentation on the skin. Though benzanthrone was the substance suspected to cause the pigmentation, the patch tests were negative.

Group V — HOUSEHOLD CONTACTANTS

SOAP — 23 (Lifebuoy 12; Rexona 3; Nero 2; Sandlewood 1; Sunlight 2; and "501 soap 3)

Flit	3	Green Crepe Paper	1
Lysol	1	Spectacle frame	3
Tobacco	7	Kerosene	5
Ink	1	Nickel	2
Gold	1		



Fig. I: — Kumkum Dermatitis



Fig. II: — *Tobacco sensitisation* : Lips, Rt. Index finger & Lt. Palm

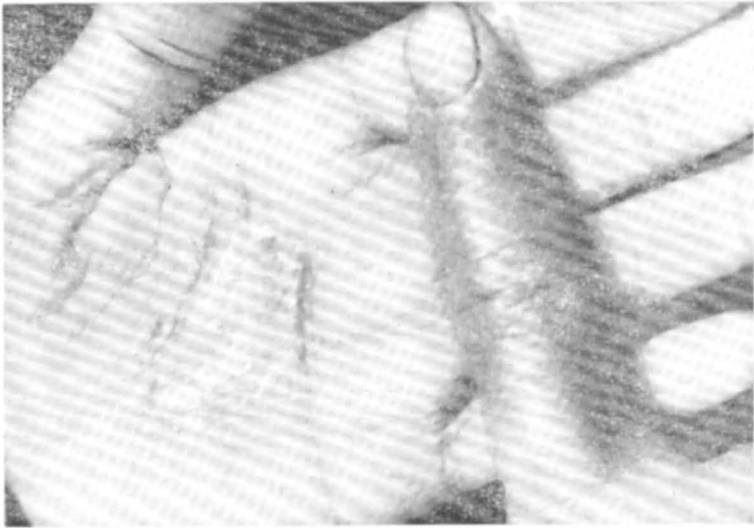


Fig. III: — *Tobacco sensitisation*: Rt. index finger & Lt. Palm



Fig. IV: — *Spectacle frame*: Back of Ears.

In this group, the various medicated soaps gave highest number of positive reactions. These come in contact with the skin for too short duration to have any beneficial effects on it because of medicaments contained in them. On the contrary, they produce dermatitis due to sensitisation to these medicaments. Rexona contains cadyl, neko contains mercury salt, while sandalwood soaps contains sandalwood oil.

Flit gave positive reactions in 3 patients; one of them was a nurse who came in contact with it daily; while being sprayed in the ward. The dermatitis was on exposed areas like face and hands and fore arms.

Green crepe paper is used to make artificial flowers; the dermatitis was seen on the index and the middle fingers and the thumb.



Fig. V : — Sides of nose

Tobacco is used for chewing and eating, as well as for cleaning the teeth. It is taken on the left palm and applied with the right index finger to the teeth and gums. Hence the dermatitis appears typically on the right index, left palm and on the lips circumorally.

SUMMARY AND CONCLUSION

1. Positive patch tests to one or more substances were demonstrated in 208 cases out of a total of 821 tested. (25.33%).
2. The highest number of positive reactions were due to different materials used in foot wear.

3. 'Kumkum' dermatitis is becoming more and more common due to different new kinds of materials used in various brands of 'Kumkum'.

I have to express my gratitude to my chief Dr. Sharat C. Desai for all the help and assistance rendered by him in the preparation of this paper and to the Dean of the K. E. M. Hospital Dr. S. V. Joglekar for permission to publish this paper.

REFERENCES

1. Office Immunology including Allergy—Sulzberger M. and Baer.
2. Allergy, Urbach and Gottlich, 2nd Edition, Grune and Stratton, N. Y.
3. Practical Allergy—Harris and Shure.
4. Occupational Diseases of the Skin—Louis Schwarz, 1957.
5. Patch Test Studies—Ferustrom, Acta Derm. Ven. Vol. 35, Pp. 420–28, 1955.
6. Schulzberger, Derm. Allergy, 1940.
7. New Interpretation of some so-called positive patch-tests, Becker, J. Michigan M. Soc., Vol. 145, Pp. 65–69, 1946.
8. Value of Patch Tests in Dermatology, Becker and O' Buien, A. M. A. Archives of Dermatology, 117/569–125/577, Vol. 80, 1959.
9. Allergic Eczematous caontact Dermatitis—Baer and Witten, Year Book of Dermatology and Syphilology, Pp. 17–38, 1957.
10. Dermatitis of feet due to shoes—Shatin, H. and Reisch, M., Arch. of Derm. Syph., Vol. 69, Pp. 651.
11. Pastular Patch Test Reaction, Fischer et al. A. M. A., Arch. of Der., Vol. 80, Pp. 142/742–149/749, 1959.
12. Some Practical Aspects of Dermatitis and Management of Shoe Dermatitis—Fischer, A. A., Arch. of Derm. Syph., Vol. 79, Pp. 267.
13. Experiences with Patch—Testing in suspected cases of Contact Dermatitis by M. W. Dhurandhar, Ind. J. of Derm. and Ven., Vol. 26, No. 25–30, Jan.–March 1960.

IMPORTANT TO OUR READERS

We receive many enquiries from both old and new subscribers to supply them with back numbers of the *INDIAN JOURNAL OF DERMATOLOGY AND VENEREOLOGY*. We usually run out of stock due to heavy demands. Hence all our Subscribers and Patrons are kindly requested to intimate the non-receipt of this bi-monthly Journal to the Managing Editor by the fifteenth of the succeeding month of publication. *INDIAN JOURNAL OF DERMATOLOGY AND VENEREOLOGY* is published always in last week of February, April, June, August, October and December during the year.

PLEASE MENTION YOUR SUBSCRIPTION NUMBER IN ALL YOUR COMMUNICATIONS WITH US
