Relevance of patch testing in hand eczema-comment

Sir,

We read with interest, Patch testing in hand eczema at a tertiary care center, the article by Laxmisha *et al*. published in the Sept-Oct 2008 issue of Indian J Dermatol Venereol Leprol 2008; 74: 498-499.[1] Irritants and contact allergens are the major etiological agents in hand eczema and they frequently co-exist. In most of the cases, it is not possible to identify the cause as irritant or allergic. Patients of chronic hand eczema are advised to avoid common household irritants like detergents, soaps, etc.[2]

The role of patch test in detection of contact sensitivity is of prime importance. The patients who are found sensitive to a particular contact allergen should avoid exposure to it, but it may be difficult to find the source of the allergen in the patient's workplace or environment. We run a hand dermatitis clinic in our out patient department (OPD), and have registered around 100 patients since August 2008. Patch testing has been done in 21 of these patients with Indian Standard Series, supplied by Systopic Laboratories, New Delhi. Out of these 21 patients, 13 were males and eight females. Age of patients ranged from 23 to 55 years. Occupation wise, four of our patients were housewives, four were agricultural and animal husbandary workers, three construction workers, and 10 had miscellaneous occupations (which included office workers, shopkeepers, jewellery workers, cooks, etc). Five patients had involvement of dorsal aspect of hand, six had it on the palmar aspect and 10 had both sides involved. Five of the cases had dermatitis involving the feet as well.

Patch testing was positive in seven out of the 21 patients (30%). Two patients were positive for potassium dichromate, one each for nickel and wool alcohol, one for paraben mix, fragrance mix and wool alcohol, one for formaldehyde and nickel, one for formaldehyde, nickel and nitrofurozone. To establish the relevance of these positive results, we tried to find the possible source of these allergens in these patients. Out of the seven patients, only three (two positive for potassium dichromate and one for nickel and formaldehyde) had definite occupational exposure (mason workers and painter, respectively). Two were housewives, who were positive for nickel, a possible source of exposure might have been detergents and soaps, which were difficult to avoid. The other two patients who were positive for wool alcohol and for paraben mix, fragrance mix and wool alcohol respectively, no occupational or environmental exposure could be established. These patients were a shopkeeper and farmer by profession.

We would be interested to know if, in the above mentioned study, the authors could establish a relationship between the positive test allergen and its presence in the environment of the patient. Further, it is difficult to explain and counsel the patients to avoid the offending allergens in the patients who test positive for antigens like nickel, fragrance mix, etc. due to their widespread presence in articles of daily use. Positivity of the patch test in our study was less as compared to that found in other studies (46-80%). A possible explanation for this may be that most of the patients in our study were housewives or agriculture and animal husbandry workers. The contact allergens responsible for their dermatitis may be present in cultivated crops, fodder crops, weeds, wild shrubs and grasses. Housewives may have hand dermatitis due to exposure to many allergens including vegetables used while cooking. These patients need to be patch tested for the specific antigens they are exposed to in their work environment, which are lacking in the Indian standard series.

The skin department of our hospital conducted a study in 1995-96 to evaluate the sensitizing potential of 20 common plants used for fodder. Patch testing was done in 50 patients with 20 different fodder plant allergens which were indigenously prepared in the department. A positive patch test was seen in six patients (12%). Similar studies need to be conducted to increase the positivity yield of patch tests in patients of hand dermatitis where agriculture and animal rearing activities are the predominant occupations.

In conclusion, we feel that although the patch testing kit of Indian standard series is an excellent method of finding the possible contact allergens, it needs further

modification and inclusion of other antigens in order to yield a higher positivity of the patch test and better management of hand dermatitis patients.

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