

Short Communications

Suitability of the European standard series of patch test allergens in Pakistani patients

IJAZ HUSSAIN, ZAHIDA RANI, TARIQ RASHID AND TAHIR SAEED HAROON

Department of Dermatology, King Edward Medical College/Mayo Hospital, Lahore, Pakistan

Key words: patch testing; European standard series; allergic contact dermatitis. © Munksgaard, 2001.

Contact dermatitis accounts for 4–7%, and in some studies up to 10%, of all dermatological disorders and almost 1/2 of all reported cases of occupational disease (1). This preliminary study was planned to determine the suitability of the European standard series in our patients (2).

Patients and Methods

Over a period of 2 years, 350 dermatitis patients (234 female and 116 male; mean age 33.8 ± 13.9 years, age range 12–75 years) were patch tested with the European standard series, according to ICDRG guidelines (3), using IQ chambers applied for 2 days (D), and reading at D2, D3, D4 and thereafter as required.

Results

Of 350 patients, 215 (61%) were positive on patch testing. Positivity to 1 allergen was seen in 35%, and to 2 more allergens in 26% of patients. Results were considered relevant in 47% of patients. Table 1 enlists the top 11 allergens, positive in more than 2% of patients. Other positive allergens, with a frequency of less than 2%, were epoxy resin, lanolin alcohol, parabens, N-isopropyl-N-phenyl-4-phenylenediamine, quaternium-15, quinolone mix, Myroxyton Pereirae resin, mercapto mix,

mercaptobenzothiazole, thiuram mix, and methylchloro-isothiazolinone/methylisothiazolinone, in descending frequency. No allergic reactions were recorded to primin. 6 patients (1.7%) developed an 'angry back', leading to tests being abandoned.

Comment

A patch test sensitivity to the European standard series of 61% is comparable with other countries (4–10). Females also outnumber males in other studies (4, 5, 8). While the commonest allergen, nickel, was more common in females, in agreement with previous reports (11, 12), the 2nd commonest, chromate, was more frequent in males, even when non-occupational. The 3rd commonest allergen, PTBP-FR, probably reflected the large number of patients with shoe dermatitis in our study.

Frequencies of cobalt, fragrance mix, neomycin and PPD were all comparable with previous reports (11, 12), though cobalt and PPD both showed a male preponderance. Formaldehyde allergy was, likewise, similar in frequency to previous reports (6, 12), while colophonium sensitivity was equally common in both sexes (11) and particularly common in patients with hand eczema (13). Sesquiterpene lactone mix sensitivity was seen, mainly in females, at a comparable level to that reported by Ross et al. (14). Benzocaine allergy was seen in both sexes, higher frequencies having been reported by Spanish (7) and Chinese (15) groups.

Among the less frequently seen sensitizers, rubber chemicals may have been uncommon in our patients due to relatively few having occupational contact dermatitis. *Primula obconica* is not grown in this region.

With few exceptions, our pattern of allergens was similar to those seen in other countries, making the European Standard series suitable for patch testing in our patients, though, primin could well be replaced with a garlic preparation (16).

References

1. Memon A A, Friedmann P S. Studies on the reproducibility of allergic contact dermatitis. *Br J Dermatol* 1996; 134: 208–214.

Table 1. The 11 most common allergens

Allergen	Male (n=116)	Female (n=234)	Total (n=350)
nickel sulfate	12	72	82
potassium dichromate	29	12	41
4-para-tert-butylphenol- formaldehyde resin (PTBP-FR)	4	30	34
cobalt chloride	16	11	27
fragrance mix	8	19	27
neomycin sulfate	5	21	26
4-phenylenediamine base	11	9	20
formaldehyde	9	7	16
colophonium	4	9	13
sesquiterpene lactone mix	3	8	11
benzocaine	4	4	8

2. Patch test products. Catalogue 2001 I. Malmö: Chemotechnique Diagnostics, 2001.
3. Wahlberg J E. Patch testing. In: Rycroft R J G, Menné T, Frosch P J, Lepoittevin J P (eds): *Textbook of contact dermatitis*, 3rd edition. Berlin: Springer-Verlag, 2001: 439–468.
4. Marks J G, Belsito D V, DeLeo V A et al. North American Contact Dermatitis Group patch test results for the detection of delayed-type hypersensitivity to topical allergens. *J Am Acad Dermatol* 1998; 38: 911–918.
5. Koh C K, Walton S. Patch test audit: are we doing more than we need to? *Contact Dermatitits* 1994; 31: 263–264.
6. Perrenoud D, Bircher A, Hunziker T et al. Frequency of sensitization to 13 common preservatives in Switzerland. *Contact Dermatitits* 1994; 30: 276–279.
7. Serra-Baldrich E, Lluch M, Valero A et al. Contact dermatitis: clinical review of 800 patients tested using the Standard European series. *Allergol Immunopathol Madr* 1995; 23: 67–72.
8. El Rab M O, Al Sheikh O A. Is the European standard series suitable for patch testing in Riyadh, Saudi Arabia? *Contact Dermatitits* 1995; 33: 310–314.
9. Lim J T E, Goh C L, Wong W K. Changing trends in the epidemiology of contact dermatitis in Singapore. *Contact Dermatitits* 1992; 26: 321–326.
10. Lee T Y, Lam T H. Patch testing in Hong Kong. *Contact Dermatitits* 1989; 21: 148–153.
11. Lestringant G G, Bener A, Sawaya M et al. Allergic contact dermatitis in the United Arab Emirates. *Int J Dermatol* 1999; 38: 181–186.
12. Shehade S A, Beck M H, Hillier V F. Epidemiological survey of standard series patch test results and observations on day 2 and day 4 readings. *Contact Dermatitits* 1991; 24: 119–122.
13. Meding B, Barregard L, Marcus K. Hand eczema in car mechanics. *Contact Dermatitits* 1994; 30: 129–134.
14. Ross J S, Du Peloux-Menage H, Hawk J L, White I R. Sesquiterpene lactone contact sensitivity: clinical patterns of Compositae dermatitis and relationship to chronic acutinic dermatitis. *Contact Dermatitits* 1993; 29: 84–87.
15. Fan W X, Zaho B. Study on Chinese common allergens of contact dermatitis. *Derm Beruf Umwelt* 1990; 38: 158–161.
16. Ducombs G, Schmidt R J. Plants and plant products. In: Rycroft R J G, Menné T, Frosch P J, Lepoittevin J P (eds): *Textbook of contact dermatitis*, 3rd edition. Berlin: Springer-Verlag, 2001: 883–931.