

Trends in the results of patch testing to standard allergens over the period 1984–1995

A. KATSAROU, D. KALOGEROMITROS, M. ARMENAKA, V. KOUFOU, E. DAVOU AND E. KOUMANTAKI

Department of Dermatology, University of Athens, A. Sygros Hospital, 5 Ionos Dragoumi Street, Athens 161 21, Greece

Key words: allergic contact dermatitis; fragrances; nickel; patch tests; standard allergens; trends. © Munksgaard, 1997.

A study of contact allergy in Athens, using the European standard series, over a 12-year period from 1984 to 1995, is presented.

Materials and Methods

From 1984 to 1995, 4567 patients (2208 male and 2359 female) with suspected contact dermatitis were patch tested in our Department with the European standard series. Allergens were supplied by Hermal (Trolab) and applied using Finn Chambers (Epitest) fixed to the upper back by Scanpor tape (Norgesplaster). Patches were removed after 2 days and read at 2 and 4 days. They were scored by a staff dermatologist in accordance with ICDRG guidelines. The data were analysed statistically by spss 6.1 statistical package. The χ^2 test for trend was used to evaluate any linear relationship between the observed proportions. If a two-sided *p*-value was less

than 0.05, then we concluded that variation was due to a trend over the years.

Results and Discussion

The number of patients patch tested each year and the frequency of positive patch test reactions are shown in Table 1. A total of 2611 (57.7%) patients had 1 or more positive patch tests. The prevalence in females was 60.2% and in males 54%.

The 3 most common allergens in males were metals (chromate, cobalt, nickel), thiuram mix and fragrance compounds (fragrance mix, balsam of Peru), and in females, metals, fragrance compounds and PPD.

Statistical analysis of positive reactions over the 12 years studied showed the following trends: (i) in females, there was a significant increase in positive patch tests to nickel ($p < 0.0001$) (Fig. 1), PPD ($p < 0.0001$) and PTBPF

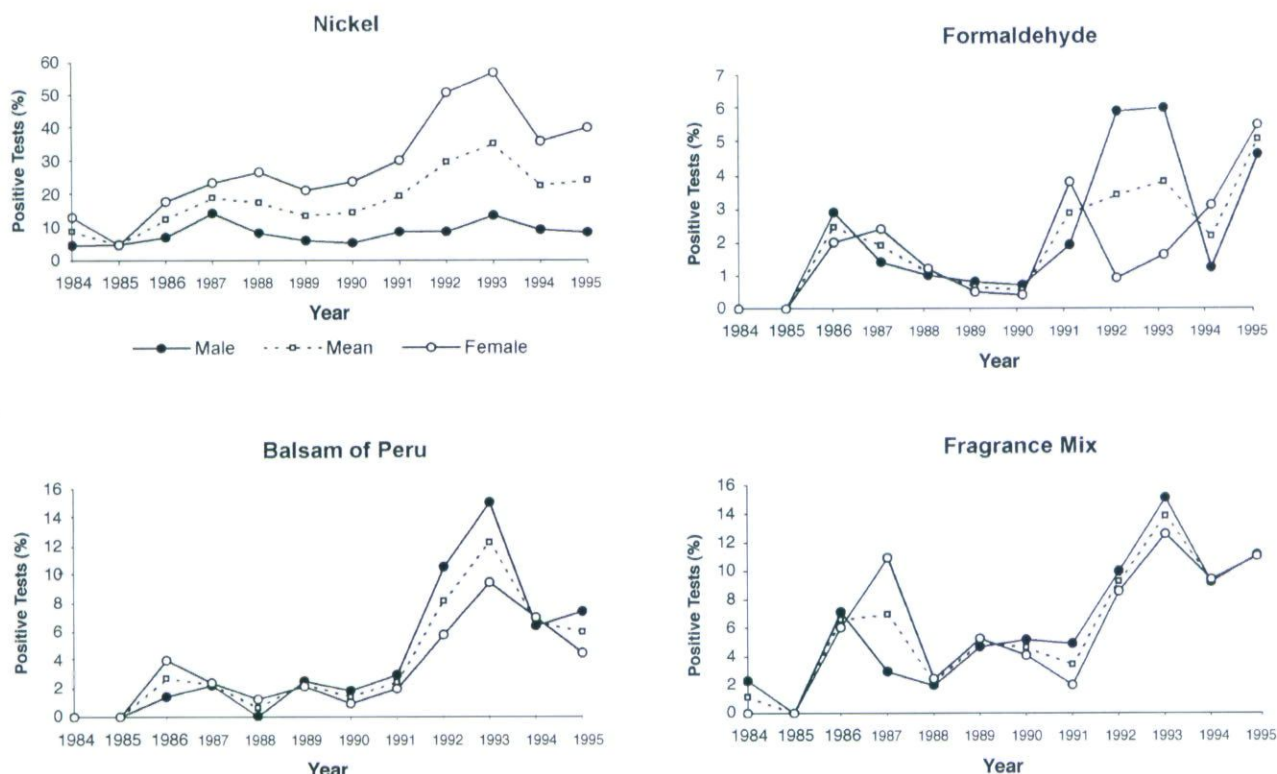


Fig. 1. % of patients with positive patch test reactions to nickel, formaldehyde, balsam of Peru and fragrance mix (see text for *p*-values).

Table 1. Number (no.) and % of patients with reactions to 1 or more allergens of the European standard series from 1984–1995

Year	Patients tested no.	Patients with positive patch tests					
		total		male		female	
		no.	(%)	no.	(%)	no.	(%)
1984	58	19	43.0	14	32.5	5	33.3
1985	82	35	42.8	22	36.0	13	61.9
1986	120	56	46.8	32	45.7	24	48.0
1987	304	180	59.2	89	64.0	91	55.1
1988	377	222	58.8	125	59.8	97	57.7
1989	430	239	55.6	134	56.5	105	54.4
1990	499	220	48.1	116	42.5	104	46.0
1991	436	252	57.8	110	43.1	142	62.0
1992	557	363	65.2	152	60.5	211	69.0
1993	545	325	59.6	133	54.1	192	64.2
1994	575	348	60.5	145	57.1	203	63.2
1995	584	352	60.3	120	55.0	232	63.4
total	4567	2611	57.7	1192	54.0	1419	60.2

resin ($p<0.003$); (ii) in males, there was an increase in sensitivity to colophony ($p=0.001$) and to carba mix (discontinued after 1992) ($p<0.0001$); (iii) in both males and females, a significant increase was seen in positive reactions to balsam of Peru ($p<0.0001$), fragrance mix ($p<0.0001$ for males, $p<0.0009$ for females) and formaldehyde ($p=0.002$ for males, $p=0.006$ for females), as shown in Fig. 1. There was also increase in the reactivity to MBT ($p<0.01$) and to ammoniated mercury ($p<0.0001$), though these were both added to the series after 1986; (iv) decrease in the prevalence of sensitivity to benzocaine and primin was observed in females ($p=0.029$ and $p=0.013$, respectively).

As in other countries, there was a male predominance for chromate and a female for nickel (1–8). The incidence of chromate allergy in males was higher than in other studies (1–3), which may be explained by the large number of cement workers that we see. Several investigators (2, 3, 7) have reported a rise in nickel allergy, which was borne out by our study. We have also recently reported a high frequency of nickel allergy in female children (9). Ear piercing has become very popular among Greek females from a young age.

Previous studies have also reported an increasing trend in sensitivity to fragrance compounds (1, 2) and formaldehyde (1). This was confirmed in our population and probably reflects the effectiveness of the advertising of fragranced products.

References

1. Grollhausen R, Enders F, Przybilla B, Burg G, Ring J. Trends in allergic contact sensitisation. *Contact Dermatitis* 1988; 18: 147–154.
2. Young E, Houwing R H. Patch test results with standard allergens over a decade. *Contact Dermatitis* 1987; 17: 104–107.
3. Edman B, Möller H. Trends and forecasts for standard allergens in a 12-year patch test material. *Contact Dermatitis* 1982; 8: 95–104.
4. Lynde C W, Warshawski L, Mitchell J C. Screening patch tests in 4190 eczema patients 1972–81. *Contact Dermatitis* 1982; 8: 417–421.
5. Netherscott J. Results of routine patch testing of 200 patients in Toronto, Canada. *Contact Dermatitis* 1982; 8: 389–395.
6. North American Contact Dermatitis Group. Epidemiology of contact dermatitis in North America 1972. *Arch Dermatol* 1973; 108: 537–540.
7. Olumide Y M. Contact dermatitis in Nigeria. *Contact Dermatitis* 1985; 12: 241–246.
8. Lunder M. Variable incidence of nickel dermatitis. *Contact Dermatitis* 1988; 18: 287–289.
9. Katsarou A, Koufou V et al. Patch tests in children: a review of 14 years experience. *Contact Dermatitis* 1996; 34: 34–70.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.