

Short Communication

Occupational allergic dermatoses in hairdressers

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In a recent study (1), the prevalence of occupational dermatoses in hairdressers in Finland was about the same as in Germany (2). We have compared the causes of allergic dermatoses in our material with a European multicentre study (3).

skin disease. They were patch tested as previously described (4, 5), usually with a standard series, a hairdressers' series and substances from their workplace or home. During 1974–1987, the application time was 1 day (4), and subsequently 2 days (4, 5). Contact urticaria was verified with an open or use test, supplemented with prick tests and specific IgE determinations (6).

Patients and Methods

The data on 71 hairdressers' contact dermatoses diagnosed in our clinic during 1974–1993 were analyzed. All patients were referred because of suspected occupational

Results

All 71 hairdressers examined were women. 56 (79%) had an occupational dermatosis, which is 2.5% (56/2231) of

Table 1. Hairdressers' allergic patch test reactions at the Finnish Institute of Occupational Health (FIOH) in 1974–93, compared with a European multicentre study (3)

Causative agent	FIOH study:		European multicentre study	
	no. positive tests/no. tests		no. positive tests/no. tests	
para-phenylenediamine	5/65	7.7%	120/809	14.8%
2-nitro-4-phenylenediamine	3/68	4.4%	33/798	4.2%
4-aminodiphenylamine	2/68	2.9%		
2,5-diaminotoluenesulfate	2/35	5.7%	13/365	3.6%
p-toluenediaminosulfate	2/29	6.9%	59/781	7.6%
toluenediamine	–/4			
4-aminoazobenzene	3/42	7.1%		
4-aminophenol	–/45			
3-aminophenol	–/35			
resorcinol	–/66		2/354	0.6%
pyrogallol	–/45		6/781	0.8%
hydroquinone	–/57			
hydrogen peroxide	–/35			
ammonium thioglycolate	1/43	2.3%	31/809	3.8%
glyceryl monothioglycolate	6/35	16.7%	151/809	18.7%
ammonium persulfate	6/47	12.8%	66/809	8.2%
chloroacetamide	2/36	5.6%		
pyrocatechol	1/23	6.9%		
formaldehyde and its releasers	6/111*	5.9%		
Kathon CG®	2/32	6.3%		
cocamidopropyl betaine	2/22	9.1%		
rubber chemicals*	12/236*	5.1%		
fragrances*	11/188*	5.9%		
colophony	3/65	4.6%		
nickel sulfate	22/62	35.5%		
cobalt chloride	8/64	12.5%		

* The same patient was tested with several fragrances, rubber chemicals and formaldehyde liberators.

all occupational skin diseases diagnosed in our clinic during 1974–1993. 27 were allergic contact dermatoses, 25 were irritant contact dermatoses, and 4 were contact urticarias. The patch test results are given in comparison with a European multicentre study in Table 1. Paraphenylenediamine (PPDA) was more common in the European material (14.8%) than in ours (7.7%), but otherwise the frequencies of the patch test reactions were similar. The causes of contact urticaria were ammonium and potassium persulfate, natural rubber latex and human dander.

Discussion

The European multicentre hairdresser study was conducted during 1988–1991. We included in this study hairdressers with occupational dermatoses up until 1993, when we started a large hairdresser study in Finland (1). Hairdressers have since become well-known as being among the occupations with the highest incidence of occupational skin disease in Finland (2). The most common causes of hairdressers' allergic contact dermatoses are PPD and its derivatives in hair dyes, thioglycolates in permanent wave solutions, and ammonium persulfate in bleaching agents. In the 1970s and early 1980s, the use of permanent hair dyes in Finland was less popular than today. It was also forbidden to use PPD, including both the ortho- and para-forms, in Finland in hair dyes until 1991, and this is probably why the number of cases caused by hair dyes was lower in Finland than in the European study (3). The majority of patients with allergic patch test reactions to PPD in Finland had probably developed their allergy from cross-reacting hair dyes, though PPD may also have been used to some extent.

Glyceryl monothioglycolate is currently the most

common cause of occupational allergic contact dermatitis in hairdressers in Europe. Clients may also be sensitized (7). Glyceryl thioglycolate is retained in the hair for up to 3 months, which explains the long-lasting dermatitis in clients (7). As both hairdressers and their clients may become sensitized, allergen replacement should be looked for, though sensitization has been described even from new ester-free permanent wave solutions (8).

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