

Allergic contact cheilitis in Athens

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Eczematous cheilitis is an inflammatory condition of the lips that is due to internal factors (atopic cheilitis) or external factors. Common exogenous causes are contact allergens in lip cosmetics and their metal casings, toothpastes and dental materials, nail varnishes, foods, and medicaments (1, 2) as well as irritancy from cosmetic agents, foods, and physical factors (1). Patch testing is indicated because one-third of the patients with cheilitis are typically found to have contact allergy (2, 3). Our experience over a 15-year period is described here.

Methods

10 580 patients were patch tested between 1992 and 2006. We retrospectively studied all patients ($n = 106$) with eczematous cheilitis. All were patch tested with an extended European baseline series (addition of ethylenediamine dihydrochloride 1%, thiomersal 0.1%, ammoniated mercury 1%, benzalkonium chloride 0.1%, and imidazolidinyl urea 2%, all in pet.) [Trolab Hermal (Reinbek, Germany) in Finn Chambers[®] on Scanpor tape (Epitest Ltd Oy, Tuusula, Finland)] and with additional suspected allergens (cosmetics, dental materials series, preservatives/antioxidants as well as toothpastes and lip cosmetics, as is, without dilution) (4). Readings (International Contact Dermatitis Research Group recommendations) were at D2 and D4. Irritant pustular reactions or reactions without oedema were excluded from the study. Doubtful reactions (?+) were repeated on 12-mm Finn Chambers.

Results

Of the 106 patients, 80 were females (75.5%), mean age 35.1 years, and 26 were males (24.5%), mean age 38.5 years. The mean duration of cheilitis was 31.7 months. 72% of the patients had 1 or more positive patch test reactions [76% of women

and 58% of men, $P = 0.082$ not significant (NS)].

Cheilitis was the unique symptom in 50/106 patients, and 64% of these patients had positive reactions. The other 56 patients also had eczema elsewhere, and 78.5% of these patients had positive reactions ($P = 0.131$ NS).

49/106 patients (46.2%) had a personal history of atopic disease of whom 38 had positive reactions to patch tests. 33/38 (87%) of atopic women and 5/11 (45%) of atopic men had positive reactions ($P = 0.009$). Of the 57 non-atopic individuals, 66.7% had positive reactions ($P = 0.280$).

The patch test results are summarized in Table 1. Nickel allergy was considered a relevant allergen in 10/34 of patients because of lipstick casings or habitual sucking of metallic objects. Positive reactions were seen in 5/23 of patients tested with lip cosmetics. 36 patients were tested with undiluted toothpastes, and 8 produced reactions. The individual ingredients of toothpastes were not tested because ingredients were not available.

Discussion

Contact allergy was the most common cause of eczematous cheilitis in our patients. The incidence of positive reactions in the study population

(72%) was much higher than that in other studies (2, 3), perhaps because of selection criteria or chronicity of cheilitis.

In a previous study, lip cosmetics were the most common cause of allergic contact cheilitis in females, while toothpaste was the most important cause in males (2). Toothpaste allergy was confirmed in a multicenter study in 15/54 patients, predominantly females, with allergic contact cheilitis (5). Toothpastes are often irritant under occlusive conditions because of the presence of surfactants; therefore, a repeated open application test (ROAT) or stop-restart tests are preferred (5).

Myroxylon pereirae (balsam of Peru), fragrance mix, and balsam of Tolu, as markers of fragrance chemical allergy, may be relevant allergens in cheilitis. Fragrance chemicals are present in many lip cosmetics and oral hygiene products (1). Colophonium derivatives are used in some lip cosmetics. Thiurams may cause cheilitis by transfer from hands because of gloves. Thiomersal, a common allergen in Greece (6), is not relevant for cheilitis.

Tosylamide/formaldehyde resin, present in nail varnishes, was the commonest primary cosmetic allergen in accordance with the literature (3). Gallates, antioxidants of relevance to lipsticks, were also important (7).

Table 1. Positive patch tests reactions from a European baseline series, cosmetics series, dental materials, and preservatives

Allergens	Males	Females	Total	%
Baseline series (106 patients)				
Nickel sulfate 5%	2	32	34	32
Thiomersal 0.1%	5	12	17	16
Myroxylon pereirae (balsam of Peru) 25%	2	6	8	7.5
Fragrance mix 18%	1	5	6	5.7
Ammoniated mercury 1%	3	3	6	5.7
Colophonium 20%	0	5	5	4.7
Thiuram mix 1%	2	2	4	3.8
Ethylenediamine dihydrochloride 1%	0	3	3	2.8
Cosmetics (61 patients)				
Tosylamide/formaldehyde resin 10%	0/6	7/55	7/61	11.5
Balsam of Tolu 20%	0/6	4/55	4/61	6.5
Dental materials (34 patients)				
Benzoyl peroxide 1%	1/11	3/23	4/34	11.8
Amalgam 5%	2/11	1/23	3/34	8.8
Sodium thiosulfatoaurate 0.25%	0/11	2/23	2/34	5.9
Potassium dicyanoaurate 0.002%	0/11	1/23	1/34	2.9
Preservatives/antioxidants (32 patients)				
Phenylmercuric acetate 0.05%	0/6	3/26	3/32	9.4
Chlorocresol 1%	0/6	2/26	2/32	6.2
Octyl gallate 0.3%	0/6	2/26	2/32	6.2
Dodecyl gallate 0.3%	0/6	2/26	2/32	6.2
Propyl gallate 0.5%	0/6	1/26	1/32	3.1

Contact allergy is a common cause of cheilitis, especially in female atopic patients, and patch testing is an essential investigation.

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