

CONTACT POINTS

CONTACT DERMATITIS 2008; 59: 115–132

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Concomitant allergic contact dermatitis from diphenhydramine and metronidazole

Contact Dermatitis 2008; 59: 115–116

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Key words: allergic contact dermatitis; anti-histamine; diphenhydramine; medicaments; metronidazole; patch test.

Case Report

A 45-year-old woman had a 15-day history of an acute, itchy, vesicular and erythematous eruption around the mouth (Fig. 1). She had previous rosacea that had been treated with an anti-allergic cream, a medication composed of chlorophyll, kamillisan, erythromycin, metronidazole and diphenhydramine, the concentrations of which were not recorded. The lesions cleared entirely within 10 days of discontinuing the anti-allergic cream and applying a topical corticosteroid. Patch testing according to ICDRG criteria was negative to the Spanish Contact Dermatitis Investigation Group (GEIDC) baseline series, the only positive being nickel (++) at D4). Patch testing with the anti-allergic cream was positive both at D2 (++) and D4 (+++). Photopatch tests with the anti-allergic cream were not performed. Photopatch test with the antiallergic cream was not performed. We subsequently performed patch tests with all the ingredients of the cream, and readings were performed after two days of occlusion and positive reactions were noted to diphenhydramine (++) at D2 and D4) and metronidazole (++) at D4). A photopatch test was carried out after ultraviolet A irradiation (5 J/cm²) and showed a positive reac-



Fig. 1. Eczematous reaction around the mouth.

tion to diphenhydramine at 3 D (++) with similar strength to previous positive patch test. Results are detailed in Table 1. Controls were performed in 12 healthy patients with negative results.

Discussion

Metronidazole is an imidazole derivative used against parasites and anaerobic bacteria which seldom causes allergic contact dermatitis (1–4). Diphenhydramine hydrochloride is an H₁ receptor antagonist, which rarely can trigger allergic and/or photoallergic contact dermatitis (5–9). Photoallergic contact dermatitis caused by diphenhydramine hydrochloride is rare, and only 4 cases have been

reported in the English medical literature (5–7), and only 1 case of the coexistence of both allergic and photoallergic contact dermatitis caused by diphenhydramine has been previously described (6). In our case, the reactions to the patch test and the photopatch test were equally positive; so, photoallergy or photoaggravation from diphenhydramine were not considered likely. We believe that our patient suffered from a concomitant allergic contact dermatitis because of metronidazole and diphenhydramine, both contained in the same medication, which has not formerly been reported. Cross-reactions between diphenhydramine and metronidazole have not been described and are highly unlikely, given that their chemical structures are different.

Table 1. Results of epicutaneous studies

Substance	Patch test		Photopatch test	
	2 D	4 D	1 D	3 D
Standard series: nickel	–	++	NT	NT
Antiallergic cream 'as is'	++	+++	NT	NT
Cream components				
Diphenhydramine 1% pet.	++	++	–	++
Metronidazole 5% pet.	++	++	–	–
Metronidazole 10% pet.	++	++	–	–
Remaining ingredients	–	–	–	–

NT, not tested.

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