

Contact dermatitis and secondary systemic allergy to dimethindene maleate

Alice Leroy, Marie Baeck and Dominique Tennstedt

Department of Dermatology, Cliniques Universitaires Saint Luc, B-1200 Brussels, Belgium

doi:10.1111/j.1600-0536.2010.01830.x

Key words: alkylamine group; allergic contact dermatitis; CAS 3614-69-5; dimethindene maleate; systemic allergic dermatitis; topical antihistamines.

Dimethindene maleate (CAS 3614-69-5) is an antihistamine of the alkylamine group. Contact sensitization to this molecule has been reported only once previously (1). Contact dermatitis caused by a gel containing dimethindene maleate, followed by systemic contact dermatitis caused by subsequent intake of drops containing the same molecule, has not been reported before.

Case Report

A 12-year-old boy presented with an acute eczematous eruption on one leg, after having applied a gel containing dimethindene maleate (Fenigel[®], dimetindeni maleas 1 mg/g; Novartis SA, Vilvoorde, Belgium) on insect bites. In order to calm the pruritus, drops containing dimethindene maleate (Fenistil[®] oral solution, dimetindeni maleas 1 mg/ml; Novartis SA) were taken orally, and 24 hr later the patient developed a diffuse, itchy, maculopapular and vesicular rash. Flucloxacillin syrup (Staphycid[®] oral solution, flucloxacillin 250 mg/5 ml; Trenker, Brussels, Belgium) had been administered concomitantly with Fenistil[®], preventively, because the patient had a heart malformation. The patient had no personal history of atopy. The eczema resolved within a week after stopping applications and intake of dimethindene maleate, and applying a topical corticosteroid.

Three months later, the patient was patch-tested with the European baseline series and with Fenigel[®], Fenistil[®] and Staphycid[®] 'as is' and diluted at 30%. Patch tests gave a positive reaction on D3 with Fenigel[®] 'as is' and diluted 30% (++), and a positive reaction on D4 with Fenistil[®] 'as is' and diluted 30% (+). There was no positive reaction with Staphycid[®]. Patch tests were also conducted with the individual constituents of Fenigel[®] and Fenistil[®]. The tests were read at D3 and D4, and were positive for dimethindene maleate (++), contained in both preparations, for benzalkonium chloride (+), contained only in Fenigel[®], and for benzoic acid (+), contained only in Fenistil[®]. Five normal controls were tested with dimethindene maleate, giving negative results and excluding any potential irritancy of the substance.

Discussion

Topical antihistamines are widely used for their antipruritic properties. Application to the skin exposes the patient to a high risk of sensitization (2). Oral administration of certain contact allergens is well tolerated and less prone to sensitizing the subject than cutaneous application (3–4). This has yet to be proved with drugs such as antihistamines. Also, co-sensitization to vehicle components and preservative agents present in the antihistaminic preparations may occur during the episode of contact dermatitis.

This is the second case report of contact dermatitis caused by topical dimethindene maleate (1); secondary systemic allergic dermatitis (5) caused by subsequent oral intake has not previously been described with dimethindene maleate.

Correspondence: Alice Leroy, Department of Dermatology, Cliniques Universitaires Saint Luc, B-1200 Brussels, Belgium. Tel: 00 32 2 764 14 72; Fax: 00 32 2 764 80 27. E-mail: alice.leroy@uclouvain.be

Conflicts of interest: The authors have declared no conflicts.

References

- 1 Valsecchi R, Di Landro A, Panseca B, Cainelli T. Contact dermatitis from a gel containing dimethindene maleate. *Contact Dermatitis* 1994; **30**: 248–249.
- 2 Goossens A, Linsen G. Contact allergy to antihistamines is not common. *Contact Dermatitis* 1998; **39**: 38–39.
- 3 White J M, Goon A T, Jowsey I R, Basketter D A, Mak R K, Kimber I, McFadden J P. Oral tolerance to contact allergens: a common occurrence? A review. *Contact Dermatitis* 2007; **56**: 247–254.
- 4 Sosroseno W. A review of the mechanisms of oral tolerance and immunotherapy. *J R Soc Med* 1995; **88**: 14–17.
- 5 Thyssen J P, Maibach H I. Drug-elicited systemic allergic (contact) dermatitis – update and possible pathomechanisms. *Contact Dermatitis* 2008; **59**: 195–202.