

Allergic contact dermatitis caused by efinaconazole: positive patch test reactions up to 0.1% pet.

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During patch testing, an appropriate drug concentration is essential for the correct diagnosis of contact allergy. An efinaconazole 10% solution containing efinaconazole, a triazole derivative, is now used for the treatment of onychomycosis in Japan. The first case of allergic contact dermatitis caused by efinaconazole was reported with positive patch test reactions to efinaconazole 10% pet. and ethanol (1). Here, we report a second case of allergic contact dermatitis caused by efinaconazole, with positive patch test reactions to efinaconazole down to 0.1% pet.

Case Report

A 74-year-old man was referred to us for patch testing in September 2015. Pruritic erythematous macules had developed on the bilateral toes where efinaconazole 10% solution, bifonazole 1% cream and terbinafine hydrochloride 1% cream had been used. The patient had a history of contact dermatitis when using a topical antimycotic agent, but he was unable to recall the brand.

The first patch test showed contact allergy to efinaconazole 10% solution and a cream containing 1% luliconazole, an imidazole derivative (Table 1). After the first patch test, terbinafine hydrochloride 1% cream was again

Table 1. Results of patch tests

First patch test			
Allergens	D2	D4	
Terbinafine hydrochloride 1% cream ‘as is’	–	–	
Luliconazole 1% cream ‘as is’	+	++	
Ketoconazole 2% cream ‘as is’	–	–	
Efinaconazole 10% solution ‘as is’	++	++	
Bifonazole 1% cream ‘as is’	–	–	
Liranaftate 2% cream ‘as is’	–	–	
Second patch test			
Allergens	D2	D4	D5
Efinaconazole 10% pet.	+	+	+
Additives of efinaconazole 10% solution			
Decamethylcyclopentasiloxane	–	–	–
Diisopyl adipate	–	–	–
Alkyl lactate	–	–	–
Dibutylhydroxytoluene	–	–	–
Anhydrous citric acid	–	–	–
Patch Test Panel®			
Black rubber mix	+	+	+
Mercapto mix	+	+	+
Thimerosal	+	–	–
Thiuram mix	+	–	–

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Table 1. Continued

Allergens	Third patch test	
	D2	D3
Efinaconazole 1% pet.	+	+
Efinaconazole 0.1% pet.	+	+

The concentration of the excipients of efinaconazole 10% solution was proprietary. The Patch Test Panel® was purchased from Sato Pharmaceutical (Tokyo, Japan).

used, without recurrence. The second and third patch tests showed allergic sensitivity to efinaconazole down to 0.1% pet. (Table 1; Figure S1).

Discussion

The patient showed contact sensitivity to efinaconazole, to which he had become sensitized by contact with peri-ungual skin. A positive patch test reaction to a component in luliconazole 1% cream could be caused by prior sensitization or by cross-reactivity with efinaconazole (2).

References

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Patients are tested with topical antimycotic products to detect allergens and cross-reactive allergens (2, 3). These products generally contain 1% or 2% of the active ingredient. Positive patch test reactions were observed with efinaconazole 1% pet. and 0.1% pet. in an efinaconazole-sensitized individual. These lower concentrations may thus be sufficient for patch testing.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Figure S1. The second patch test showed positive patch test reactions to efinaconazole 10% pet., PPD black rubber mix and mercapto mix on D5 (+). The third patch test showed positive patch test reactions to efinaconazole 1% pet. and 0.1% pet. on D3 (+).

D5

D5

efinaconazole 10% pet.

black rubber
mix

mercapto
mix

D3

efinaconazole 1% pet.

efinaconazole 0.1% pet.

