

Allergic contact dermatitis from undecylenic acid in a commercial antifungal nail solution

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Key words: allergic contact dermatitis; tioconazole; Trosid® nails; undecylenic acid.

As far as we know, contact allergy to undecylenic acid has only been previously reported on one occasion. In that case, this acid and its zinc salt were also being used to treat a superficial fungus infection (1).

Undecylenic acid consists mainly of undec-10-enoic acid (2). Because of its antifungal and antibacterial properties, it has been used and is being used as an ingredient in commercial products for the treatment of onychomycosis; with the addition of imidazole derivatives (tioconazole) to promote its antifungal effects.

Case Report

A 61-year-old woman without previous allergy history consulted us for acute dermatitis at the periungual aspect of the fingers of both hands. The patient had used a solution for onychomycosis treatment (Trosid® nails, Pfizer Laboratories, Sandwich,

UK) for 6 months. A patch test was performed with the standard series of GEIDC and commercial products (Trosid cream and Trosid nails) with positive reaction only to Trosid nail solution. She was then retested with the three ingredients of Trosid nails (tioconazole, ethyl acetate, and undecylenic acid), provided by the manufacturer. There was a positive reaction only to undecylenic acid (Table 1). Patch test with undecylenic acid 4% pet. was negative in 20 controls.

Discussion

Allergic contact dermatitis from tioconazole in Trosid nails has been frequently reported (3, 4). Stubb et al. (5) considered this high frequency to be due to the very high concentration (28%) of tioconazole used in this nail solution. In our patient, undecylenic acid instead of tioconazole was the cause of sensitization to Trosid nails.

The recommended concentration in textbooks for patch testing with undecylenic acid ranges from 2% to 4% pet. (6, 7), although in the case reported previously a 5% pet. concentration was used (1).

In spite of its rarity, we stress the presence of undecylenic acid as a possible allergen ingredient included in commercial products for topical treatment of onychomycosis and propose patch testing with a 4% pet. concentration to detect contact sensitization to this product.

Acknowledgment

We acknowledge Pfizer Laboratories for providing us with the Trosid nails constituents for patch testing.

Table 1. Patch test

	48 h	96 h
Trosid cream	–	–
Trosid nails	+	++
Tioconazole 1% pet.	–	–
Ethyl acetate 20% pet.	–	–
Undecylenic acid		
1% pet.	–	–
2% pet.	–	++?
4% pet.	+	++

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