

An unusual case of triclosan-induced immunological contact urticaria

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Triclosan is a weak contact sensitizer. Few cases of triclosan-induced allergic contact dermatitis have been reported(1). Immediate-type hypersensitivity reactions to triclosan have not been reported before. Here, a case with severe contact urticaria/angioedema caused by triclosan is presented for the first time.

Case Report

A 44-year-old non-atopic Turkish woman presented with a 5-year history of pruritic reddish wheals on her skin/mucosa occurring immediately after contact with some soaps and topical products. Recently, use of the toothpaste 'Colgate® Total' had caused immediate swelling of her lips and tongue, leading to breathing difficulties. The condition resolved within 6 hr with systemic corticosteroids and antihistamines. Kissing her husband, who was using the same toothpaste, caused swelling of her lips within minutes. Kissing her friends, who were using certain topical products on their faces, also caused wheals on her face/lips.

The suspected products, that is, a toothpaste (Colgate Total®), a moisturizer lotion (Excipial® Lipo), a corticosteroid cream (Hipokort® cream), a metronidazole cream (Roza® cream), and an antibacterial liquid soap (Protex® Ultra), contained triclosan at concentrations up to 0.2–0.5%. Early reading of chamber tests on the back with IQ Chambers® (Chemotechnique Diagnostics, Vellinge, Sweden) showed severe urticarial reactions to Roza® cream ('as is') and triclosan (2.0% pet.) within

10–15 min (Figs. 1, 2). No reactions were observed to other ingredients of toothpastes, such as d-limonene 2.0% pet., menthol 1.0% pet., anethole 5.0% pet., and oil of cinnamon 0.5% pet., to other ingredients of Roza® cream, that is, metronidazole 1.0% pet., BHA 2.0% pet., chlorhexidine digluconate 0.5% aqua, and sodium-EDTA 1.0% pet., or to *Myroxylon pereirae* resin 25.0% pet., fragrance mix 8.0% pet., and paraben mix 16.0% pet. Because of the severe urticarial reaction to triclosan and Roza® cream, the patient was treated with a single intramuscular injection of pheniramine maleate 45.5 mg/2 ml. No delayed-type reactions were observed at D2, D3, D4, and D7. No skin or use tests were performed with other triclosan-containing suspected products, given the severe urticarial skin test reaction with triclosan. The



Fig. 1. Early reading of chamber test: severe urticarial reaction to Roza® cream ('as is') containing triclosan at 15 min.

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Fig. 2. Early reading of chamber test: severe urticarial reaction to triclosan (2.0% pet.) at 15 min.

results of control tests with Roza® cream and triclosan (2.0% pet.) for 15 min remained negative in 5 healthy individuals. No immediate skin reaction to triclosan has been observed in our department in ~1000 patients patch tested with the cosmetic series since 1996.

The patient avoided contact with triclosan-containing products. No new attack occurred during a 6-week follow-up.

Discussion

Triclosan [2,4,4'-trichloro-2'-hydroxydiphenylether, 5-chloro-2-(2,4-dichlorophenoxy)-phenol; CAS No. 3380-34-5] is a biocide with broad-spectrum antibacterial and antifungal activity. Several healthcare and consumer product types (1), for example deodorants, toothpastes, hand soaps, dish soaps, shampoos, facial cleansers, bath oils, emollients, mouthwashes, cosmetics, and topical medicaments, may contain triclosan.

Animal and human studies (2) and large patch test series have shown that triclosan is a weak contact sensitizer (3–5). Rare cases of allergic contact dermatitis resulting from the use of triclosan-containing

deodorants (6), toothpaste (7), soaps (8), corticosteroid–triclosan combination cream (9) and other products have been reported.

Triclosan-induced immediate-type hypersensitivity reactions have not been reported before. On a web-site about beauty and personal care products, however, there was one claim of hives occurring immediately after contact with triclosan-containing toothpastes and antibacterial soap (10).

Our findings underline the importance of immediate skin testing in the diagnosis of contact urticaria, as conventional patch testing (with a 2-day occlusion) would have missed this immediate reaction to triclosan.

Serum triclosan-specific IgE determination or basophil activation tests, which would have provided evidence regarding the presence of immunological contact urticaria, could not be performed in the present case. However, there were some important clinical points that were highly suggestive of triclosan-induced immunological contact urticaria rather than non-immunological contact urticaria. First, in non-immunological contact urticaria, the reaction remains localized and does not cause systemic symptoms (11). In the present case, however, severe mucosal angioedema leading to breathing difficulties occurred following oral mucosal contact with triclosan-containing toothpaste. Second, in immunological contact urticaria, positive immediate skin test reactions usually appear within 15–20 min after contact with the inducer agent, as seen in our case, whereas non-immunological reactions usually appear within 45–60 min (11). Third, the lack of any reactions in control subjects was highly suggestive of immunological contact urticaria in the presented case.

Additionally, the reaction with triclosan-containing products to which the patient was exposed secondarily through physical contact with her husband or friends was consistent with the diagnosis of 'connubial/consort contact urticaria'.

In conclusion, this is a case of immunological contact/consort contact urticaria caused by triclosan, which has not been reported before.

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