

Short Communication

Contact allergy to anethole in toothpaste associated with loss of taste

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Case Report

A 64-year-old woman noticed slight discomfort and dryness of her mouth in January 1996, and at the same time totally lost her sense of taste, her sense of smell remaining normal. She had had transient loss of taste some years earlier, when taking sulfasalazine for mild seronegative arthritis, but had had no problems with taste since then, and had taken no medication for several years. In the next 2 weeks, she developed soreness, dryness and cracking of her lips and this spread to the perioral skin. There was no response to corticosteroid/antibiotic or corticosteroid/imidazole applications, and her symptoms gradually worsened until she was seen in the skin clinic 6 months later. As well as the external signs (Fig. 1), there was slight erythema and desquamation of the oral mucosa. While waiting for patch testing, she was advised to stop using her toothpaste (Colgate® Total). Her lips improved greatly, but when she tried herbal Kingfisher® toothpaste she noticed a marked deterioration.

Patch testing to European standard and bakery series showed a ++ reaction to anethole (5% pet.) and a + to the Kingfisher® toothpaste (2% aq.), but no reaction to Colgate® Total toothpaste (2% aq.). Although this patch

test was negative, the manufacturers confirmed that anethole was an ingredient of Colgate® Total toothpaste. Kingfisher® herbal toothpaste contains fennel, a natural source of anethole. The patient stopped using all toothpaste and noticed a marked improvement, initially of her oral mucosa and lips. A few weeks after this, her sense of taste suddenly returned and remains normal, 6 months later. Her perioral skin improved steadily and is now normal, and she is now using a non-anethole-flavoured toothpaste without problems.

Discussion

Anethole is a natural substance found in the oils of anise, star anise and fennel (Umbelliferae). It is a common, though often unlisted, flavouring in toothpastes (1), and is used as aniseed in sweet foods, and as a flavour in some liquid medicines. The herb fennel is found in savoury foods, and both aniseed and fennel are used in herbal remedies and aromatherapy. Anethole is not a common cause of allergic contact dermatitis. Most reports are of reactions to toothpaste flavours, but dermatitis has recently been described in cooks from anise oil (2). Anise oil in lipstick may cause cheilitis (3).

Allergy to toothpaste ingredients usually causes cheilitis, stomatitis or perioral eczema, though contact urticaria, wheeze or even anaphylaxis can also occur. This patient, as well as cheilitis, perioral eczema and stomatitis, had total loss of taste. In spite of its rarity, the time-course of the taste loss and its relation to her other symptoms do suggest an association with her allergic contact dermatitis.

References

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3. Lovell C R. *Plants and the skin*. Oxford: Blackwell Scientific Publications, 1983: 142.



Fig. 1. Cheilitis and perioral eczema.