

Eyelid Dermatitis as a Manifestation of Systemic Contact Dermatitis to Cinnamon

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PRECÍS

Systemic contact dermatitis to cinnamon may manifest solely as eyelid dermatitis.

A 58-year-old female physician presented with an upper eyelid rash for 4 years. The rash responded to hydrocortisone cream but would recur.

Upon the advice of her dermatologist, she switched to products free of fragrance additives, formaldehyde preservatives, and methylisothiazolinone. She improved, but scaling and itching of the eyelids persisted.

She was tested to the North American Contact Dermatitis Group standard series and a preservatives series. At 72 hours, she had 1+ reactions to fragrance mix, cinnamic alcohol, vanillin, and nickel and a 3+ reaction to thiuram mix.

The patient denied any direct eyelid contact with nickel- or thiuram-containing objects, and she was counseled on sources that might result in transfer contact dermatitis, including metal objects and rubber gloves. Because her skin care products were already fragrance-free, she was provided information on a Balsam of Peru (BOP) avoidance diet. She had been using cinnamon on many foods and immediately stopped. She noted improvement within 2 days and total clearance by 5 days. While advised to switch to a brand of gloves known to be thiuram-free, she had not done so. At 3-month follow-up, she reported no recurrence of her dermatitis. She resumed the use of some of her original cosmetics without difficulty. At 1-year follow-up, she reported that her only flares would occur 1 day after the consumption of cinnamon in cereal or muffins.

DISCUSSION

Systemic contact dermatitis (SCD) occurs in individuals sensitized to topical allergens who experience dermatitis after systemic exposure to the same allergen. Systemic exposure may occur via oral, intravenous, percutaneous, or inhalational routes.¹ Although the mechanism is not fully elucidated, SCD is believed to be a T-cell mediated delayed type hypersensitivity reaction. Systemic contact dermatitis should be considered in patients with a positive patch test

to an allergen (known to cause SCD) who have not cleared after avoidance of cutaneous exposure.

Systemic contact dermatitis may present with a myriad of cutaneous manifestations. One specific manifestation, originally termed baboon syndrome, presents as erythema of the buttocks, inner thighs, and axillary folds.² Balsam of Peru is one of the major causes of SCD, and commonly described manifestations to this allergen include facial, hand, and anogenital dermatitis.^{1,3}

Balsam of Peru and fragrance additives are common causes of eyelid dermatitis, due to their use in many skin care products,⁴ and topical allergen avoidance results in clearance for many patients. For those with persistent dermatitis, avoidance of balsam-related foods is also recommended. In a study of patients with positive patch tests to BOP or fragrance mix, roughly 50% saw significant—if not complete—clearance of their dermatitis after commencing a BOP avoidance diet.³ This diet requires avoidance of balsam-related foods, which include cinnamon as well as tomatoes, citrus, chocolate, and other foods.

Our patient's dermatitis was confined to the eyelids. She did not clear with topical allergen avoidance but did with avoidance of cinnamon ingestion, leading to a diagnosis of SCD. Although it is not known why only her eyelids were affected, 1 possible explanation centers around the fact that reactivation of previous dermatitis sites has occurred after systemic absorption of an allergen.² Our patient had previously used fragrance-containing skin care products, which may have been an initial cause of her eyelid dermatitis. Although facial dermatitis due to SCD is well recognized, SCD manifesting solely as eyelid dermatitis is not emphasized in the literature. In 1 case report, a patient allergic to formaldehyde experienced clearance of her eyelid dermatitis within 1 week of discontinuation of aspartame ingestion.⁵ The authors hypothesized that SCD to formaldehyde was the cause. While eyelid dermatitis due to SCD is rarely described, it is unclear if this is due to rarity, underrecognition, or underreporting.

PEARL

As SCD may have diverse clinical presentations, including eyelid dermatitis, it must remain in the differential for recurrent dermatitis not responding to topical allergen avoidance.

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DOI: 10.1097/DER.0000000000000126

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