

Contact Urticaria to Components of Balsam of Peru Presenting Like Food Allergy With Systemic Symptoms

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PRECÍS

Contact urticaria (CU) is an underrecognized/underappreciated phenomenon that can lead to not only cutaneous but also systemic symptoms that can mimic other type I food allergies.

DISCUSSION

A 33-year-old woman presented with a 1-year history of dramatic lip and throat edema as well as pruritus that developed after eating various foods including tomato-based products (pizza sauce, salsa, and tomatoes), limes, lemons, and grapefruits (Fig. 1). A similar effect was noticed after using many brands of toothpaste. The patient also developed gastrointestinal distress and abdominal pain leading to nausea and occasional emesis with the above foods. Lip edema was typically followed by scaly dermatitis on the lips the following days. The patient subsequently became a coworker and was hired in the patch test clinic. She developed pruritus of the hands after each exposure to ingredients of balsam of Peru and required wearing gloves. Results of the evaluation for immunoglobulin E antibodies and skin prick tests to tomato and citrus antigens were negative. Closed chamber testing on the forearms with benzoic acid, cinnamic aldehyde, and balsam of Peru at 10 minutes produced painful and pruritic plaques, which the patient could not stop scratching (Fig. 2). Focused patch testing to those same allergens was negative although the patient noticed pruritus at the allergen sites early in the testing. The patient was diagnosed with stage 3 CU syndrome to components of balsam of Peru and was instructed to avoid foods containing balsam of Peru. Her symptoms resolved, and she remains clear as long as she avoids those foods.

CU reactions are generally divided into 3 categories: non-immunologic CU (NICU), immunologic CU (ICU), and mixed/undetermined. NICU occurs without prior sensitization, and the causative agent theoretically triggers an urticarial reaction in most people. An example of NICU is the reaction from stinging nettles to which most people react. ICU involves type I hypersensitivity

resulting from previous sensitization to an offending agent. Latex allergy is a classic example of ICU.¹ CU can also be associated with systemic symptoms and thus 4 stages of *CU syndrome* are described. Stage 3 includes possible bronchial asthma, rhinoconjunctivitis, oropharyngeal, or gastrointestinal symptoms.²

Balsam of Peru is derived from the *Myroxylon balsamum* tree and is used in foods and cosmetics. It contains 13 chemicals, including cinnamic aldehyde and benzoic acid. It most commonly causes a delayed-type hypersensitivity contact dermatitis, but it can also cause CU—both NICU and ICU.^{3,4} Because of the gastrointestinal and oropharyngeal symptoms in our patient, this clearly represents stage 3 ICU to components of balsam of Peru even though her presentation could be identical to a more common food protein allergy. A similar case of throat discomfort and urticaria erupting after eating butter toffee popcorn and cinnamon was reported in a patient who was later found to have an immediate patch test response to balsam of Peru.³ Lip swelling in a woman after use of a cinnamic aldehyde-containing mouthwash, which subsequently produced immediate urticaria in response to open application of the mouthwash on the antecubital fossae, was reported.⁴

Multiple publications detail the methods of evaluating CU.² A recent report suggests one method of uncovering allergen-occluded skin (while patch testing) to visualize the “pink sign” or wheal within the first 20 minutes of patch application.⁵ Clinicians should be aware of nonclassic food “allergic” reactions such as NICU especially to foods with complex ingredients and should be aware of the methods of evaluating CU.³

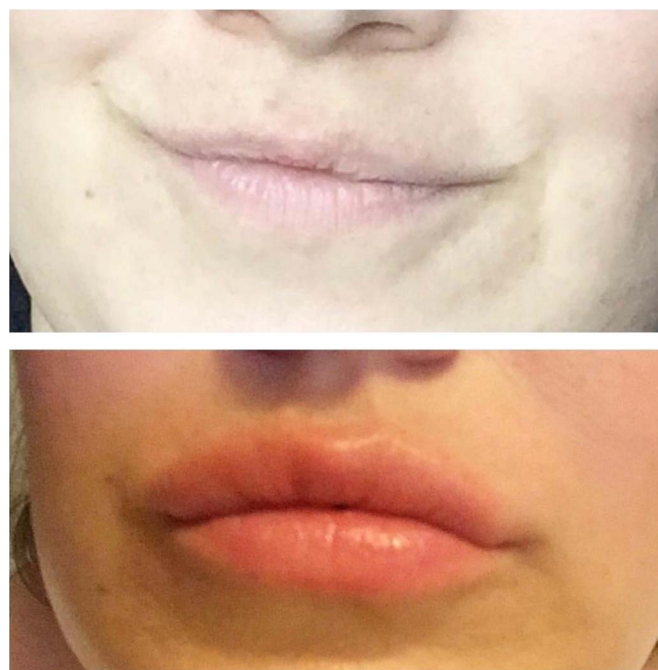


Figure 1. Top: patient's lips at baseline. Bottom: patient's edematous lips after exposure to tomato-based products, citrus fruits, and toothpastes.

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Figure 2. From top to bottom: elicited reactions of closed chamber testing at 10 minutes to benzoic acid, balsam of Peru, and cinnamic aldehyde.

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CU to components of balsam of Peru is well known but underrecognized and can mimic the more common type I food protein allergy. Clinicians should be aware of this when evaluating patients.

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