

CONTACT POINT

What's the "buzz" about propolis? Propolis-induced systemic contact dermatitis

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Propolis, which is a lipophilic resinous substance collected by bees, is used in folk remedies, cosmetics, and personal care products.¹ There are many examples of propolis causing localized allergic contact dermatitis, whereas documented systemic reactions are seen less frequently.^{2–4} Here, we report a patient using topical and oral propolis who presented with systemic allergic dermatitis.

CASE REPORT

A 32-year-old woman presented with a 15-day history of severe cheilitis and perioral dermatitis, associated with patchy eczematous lesions affecting her trunk and limbs (Figure 1A–C). The patient was taking topical and oral preparations containing propolis to treat what she thought



FIGURE 1 (A), Severe cheilitis/perioral dermatitis secondary to propolis use. (B), Patchy eczematous lesions on the left arm. (C), A diffuse eruption on the trunk

was a herpetic infection of her lips. She had used lip balms containing propolis several times in the past. She was advised to avoid propolis, and was treated with systemic steroids, with complete resolution of the skin lesions. Patch tests performed after 2 months showed positive reactions to propolis 10% pet. and *Myroxylon pereirae* (balsam of Peru) (Chemotechnique Diagnostics, Vellinge, Sweden) on day (D) 2 and D4.

DISCUSSION

Propolis, or “bee glue”, is used by honeybees to seal the walls of their hives and embalm dead invaders to prevent decomposition and putrescence.^{5,6} Although propolis is typically composed of balsams and resins (55%), waxes (30%), essential oils (10%), pollen (5%), cinnamyl alcohol, vitamins A, B, C, and E, flavonoids, and various minerals,² its specific composition is highly variable, owing to the natural variability of plants around the hive.⁷ More than 180 constituents of propolis have been identified, and, although many have shown strong sensitizing properties,⁸ its main allergens are 3-methyl 2-butenyl caffeate (CAS no. 118971-61-2) and phenylethyl caffeate (CAS no. 104594-70-9).¹ Propolis also shares 13 components with the known allergen *M. pereirae*,^{8,9} and shows significant allergic cross-reactivity with it^{6,10}, as seen in this patient.

Propolis was almost exclusively an occupational contact allergen in bee-keepers until recently, when the number of cases of propolis-induced allergic reactions (localized allergic contact dermatitis, cutaneous reactions, and, less frequently, systemic reactions¹⁻⁴) increased. This increase in propolis-related adverse events is attributed to the growing popularity of “natural products”,⁶ which are generally perceived by consumers as safe and without side-effects. It is therefore necessary to be aware of propolis and its potential for causing allergic reactions. If systemic allergic dermatitis is clinically suspected, a history of propolis use should be obtained.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interests.

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