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A case of allergic contact dermatitis caused by propolis-enriched honey

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Propolis is a resinous substance produced by bees from digested tree buds and barks, and is primarily composed of resins and balsams, combined with beeswax, pollen, and essential oils. It has considerable sensitizing potential, caused primarily by the esters of caffeic acid (phenylethyl caffeate and 3-methyl-2-butenyl caffeate), which are among > 300 constituents (1–3).

Case Report

A 69-year-old female was referred with eczematous dermatitis affecting the temporal portions of the forehead and the cheeks, evolving in the previous week. The patient reported the prior application of honey for cosmetic purposes.

Patch tests were performed with the Portuguese baseline series, propolis 10% pet., and the patient's honey (allergen occlusion for 2 days in Finn Chambers® on Scanpor® tape; Epitest Ltd Oy, Tuusula Finland). All of the commercial allergens were provided by Chemotechnique Diagnostics® (Vellinge, Sweden).

Readings were performed on D2 and D4 according to the ICDRG criteria. There were positive reactions to propolis (+++), honey (++), *Myroxylon pereirae* resin (++), nickel sulfate (++), and *N*-isopropyl-*N'*-phenyl-4-phenylenediamine (IPPD) (++), both at D2 and at D4. The reaction to *M. pereirae* resin was considered to be a cross-reaction with propolis, as they share 13 constituents. The reactions to

nickel sulfate and IPPD were interpreted as being of past relevance.

When questioned, the beekeeper/producer of our patient's honey admitted that he had added propolis to some of his lots (including our patient's), because of its preservative and medicinal properties.

Discussion

Because of its antiseptic, anti-inflammatory and antioxidant properties, propolis has attracted the attention of manufacturers of medicinal, cosmetic and hygiene products. This has led to an increase in the frequency and a change in the type of allergic contact dermatitis (ACD) caused by propolis. Formerly an occupational dermatosis (mostly in beekeepers), ACD caused by propolis is now mainly related to cosmetics. In the most recently published series, the prevalence of positive patch test reactions to propolis has reached 1.9–3.5%, with the authors advocating its inclusion in the baseline series (4–6).

We report what we believe to be the second case of ACD caused by honey enriched with propolis. Previously, no true cases of ACD caused by honey had been published, and so, considering its widespread use, one may say that it has no sensitizing potential. Moreover, in normal circumstances, honey does not contain propolis (2). Therefore, as in the previously published case report (7), the propolis had been added to the honey that our patient used for cosmetic purposes without any mention on the label. The addition of propolis to honey is becoming more common in the food industry, with medicinal claims being made, putting more patients in danger of sensitization. Having that in mind, we believe that the grounds are set for the discussion on the terms for propolis utilization in human use products.

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