

Allergic contact dermatitis from cera alba (purified propolis) in a lip balm and candy

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We report a case of allergic contact dermatitis to cera alba, which is a purified product of propolis (beeswax). Propolis is a brownish, resinous material that is collected from trees by the honey bee (*Apis mellifera*) and used to varnish the hive interior, seal cracks

and glue everything together. It also has the purpose of neutralizing bacteria, fungi or virus that enters the hive. By melting and purifying a honeycomb you get beeswax called cera flava or yellow wax. Cera alba (or white wax) (CAS No. 8012-89-3) is a bleached product of cera flava. It consists primarily of myricyl palmitate, cerotic acid and esters and some high-carbon paraffins. Some propolis-related substances that may be found in cosmetic products are by INCI name: cera alba, propolis cera, beeswax acid and synthetic beeswax.

Numerous cases of allergic contact dermatitis to propolis in natural cosmetics and therapeutics have been reported over the years (1–5). In cosmetics, the purified product of cera alba is often used. It is added to cosmetics as an emulsifying and thickening agent. Moreover, cera alba is a food additive (E901) used as a coating and glazing agent mostly for fresh fruits and candy.

Case Report

A 44-year-old woman with a history of atopic dermatitis experienced an unusually serious flare-up of face and neck dermatitis that this time included a pronounced cheilitis. She was patch tested with the European standard series and her own products, and she developed reactions to her lip balm and potassium dichromate of unknown relevance. She also reacted to thiuram mix of probable relevance, as she had once reacted to rubber in a pair of boots.

The manufacturer kindly supplied the ingredients of the lip balm in the form of cera alba and a vegetable

oil (olus) in which the remaining ingredients, hydrogenated vegetable oil and candelilla cera, were dissolved. The patient was patch tested with the two provided ingredients as is. A + reaction was seen to cera alba, while the oil produced a doubtful reaction. The patient experienced a flare-up of eczema on the face and hands in relation to patch testing with the ingredients. As the use of the lip balm was discontinued, her skin condition cleared, except that instances of dry and chapped lips still occurred regularly. It was subsequently discovered that wine gums often consumed by the patient were coated with cera alba. When this type of candy was avoided, the cheilitis cleared completely. To clarify whether a cross-reaction to propolis was present, she was patch tested again 6 months later with propolis 10% in pet. On day 3, a ++ reaction was seen. Simultaneously, the patient tested + to both cera alba 20% and cera flava 30% in pet. Patch testing again induced a flare-up of hand eczema.

Comment

Cera alba is a propolis-derived wax component that can be found in lip balms and may cause allergic contact dermatitis. The relationship between cera alba and propolis should be explained to propolis allergic patients. Our patient reacted to both cera alba and propolis; however, it is not known whether cross-reactivity between the compounds is the general rule, but we anticipate it is common. This case shows that cera alba as a coating agent in foods may be a source of exposure explaining recur-

rent cheilitis. Thus, awareness of cera alba as a food additive is important for sensitized individuals.

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References

1. Hausen B M, Wollenweber E, Senff H, Post B. Propolis allergy. (I). Origin, properties, usage and literature review. *Contact Dermatitis* 1987; 17: 163–170.
2. Garrido Fernandez S, Lasa Luaces E, Echechipia Modaz S, Arroabarren Aleman E, Anda Apinaniz M, Tabar Purroy A I. Allergic contact stomatitis due to therapeutic propolis. *Contact Dermatitis* 2004; 50: 321.
3. Ting P T, Silver S. Allergic contact dermatitis to propolis. *J Drugs Dermatol* 2004; 3: 685–686.
4. Seidenari S, Giusti F, Pepe P, Mantovani L. Contact sensitization in 1094 children undergoing patch testing over a 7-year period. *Pediatr Dermatol* 2005; 22: 1–5.
5. Hasan T, Rantanen T, Alanko K et al. Patch test reactions to cosmetic allergens in 1995–1997 and 2000–2002 in Finland – a multicentre study. *Contact Dermatitis* 2005; 53: 40–45.

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