

Navarro Triviño Francisco José (Orcid ID: 0000-0002-5454-3671)
Ruiz Villaverde Ricardo (Orcid ID: 0000-0002-0381-6174)

Allergic contact dermatitis caused by Benjuí extract in a natural cosmetic cream

Francisco J. Navarro-Triviño¹, Ricardo Ruiz-Villaverde²

Department of Contact Eczema and Immunoallergic Diseases, Dermatology¹. Hospital Universitario San Cecilio, Granada. Department of Dermatology². Hospital Universitario San Cecilio. Granada.

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Correspondence:

Francisco José Navarro Triviño,
Hospital Universitario San Cecilio, Granada, Avenida de la Ilustración, s/n CP 18016, Granada, Spain.
Telephone: 0034657998758
Email address: fntmed@gmail.com

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Case report

An otherwise healthy 45-year-old non-atopic woman was referred to our Contact Eczema Department with a facial pruritic eruption lasting 3 months. She had started the daily use of a new natural face cosmetic “Virgin Bamboo Milk cream” (Naturitas Homeovital SL, Barcelona, Spain) one month before the onset of the dermatitis (Fig. 1A). A ROAT (twice daily on the forearm) with the natural cosmetic cream was positive after 4 days (Fig. 1B). The event was communicated to the manufacturer, who supplied us the ingredients for additional patch testing.

Patch tests were performed with the European Comprehensive Baseline Series and cosmetic series (Chemotechnique Diagnostics, Vellinge, Sweden), the Virgin Bamboo Milk cream “as is”, and its ingredients (Table 1). The patch tests were read, according to criteria of the International Contact Dermatitis Research Group, on day (D) 2 and D4. The patient showed a positive patch test reaction to the cosmetic product “as is” (++) and to Benjuí extract 1% pet. (+++), *myroxylon pereirae* 25% pet. (++) and fragrance mix I 8% (++) (Chemotechnique Diagnostics), and tolu balsam 20% pet. (++) (ingredient shipped by the manufacturer according to the concentrations as present in the cream). 10 control patients showed no positive reaction to Benjuí extract. Allergic contact dermatitis caused by Benjuí extract was thus diagnosed, and cross-reaction to *myroxylon pereirae*, tolu balsam, and fragrance mix I was observed.

Discussion

Benjuí essential oil comes from the tree resin original of Java, Sumatra and Thailand. Benjuí extract, also known as styrax benzoin resin, is used in cosmetics for its anti-inflammatory, antiseptic and antioxidant properties. This essential oil is recommended to treat inflammatory skin diseases such as psoriasis or dermatitis. The main source of contact is through natural cosmetics. Due to its fragrance, it is used in perfumery, in aromatherapy as the calming and comforting scent. Its main components are benzyl benzoate, benzoic acid and cinnamic acid. Through the performing patch test, cross-reaction with the *myroxylon pereirae*, tolu balsam, and fragrance mix I can be observed^{1,2}. Benzoic acid is one of the *myroxylon pereirae* ingredients, and cinnamic acid is an auto-oxidation product of cinnamal (present in fragrance mix I), explaining the reason for cross-reactions with these allergens. It would be advisable to recommend the avoidance of fragrances in this patient. In these patients it is very important to patch the own products³. Several articles have been published in relation to the compound tincture of benzoin. It is a mixture made of four naturally occurring resins: benzoin, aloë, styrax and tolu balsam in alcohol. Tincture of benzoin only consists of 10% benzoin in alcohol. Benzoin can cross-react with balsam of Peru, styrax, eugenol, vanilla, α -pinene, benzyl alcohol and benzyl cinnamate⁴. The main sources of contact are adhesives sprays⁵. Occupational allergic contact dermatitis caused by tincture of benzoin aerosol spray was reported⁶.

We present a new case of allergic contact dermatitis caused by Benjuí extract. Natural cosmetics continue to be an important attraction for patients. Among its ingredients we

find essential oil mixtures with sensitization capacity. Cross reactions between them is not uncommon.

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Figures

Figure 1. (A) Erythematous edematous facial rash. **(B)** Positive ROAT with Virgin Bamboo Milk cream at day 4. **(C)** Positive patch test reaction to Benjuí extract 1% pet. (+++) at D4.

Cornflower extract	1% pet
Bamboo extract	1% pet
Benjuí extract	1% pet
Tolu balsam	20% pet
Tonka bean extract	1% pet
Violet extract	1% pet
Incense essential oil	2% pet
Ylang essential oil	2% pet
Jasmine absolute	2% pet

Table 1. Ingredients from the manufacturer: Virgin Bamboo milk cream



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