

Contact urticaria following the use of a cosmetic containing caprylyl glycol: A case report

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Caprylyl glycol (CG) is a widely used cosmetic preservative with humectant and emollient features. In cosmetic formulations, it is usually found in low concentrations of 0.00003% to 5%¹⁻³ Contact urticaria occurs within minutes to hours after skin contact. The mechanisms involved may be immunological (IgE-mediated), or non-immunological, with a potential role for prostaglandins and direct histamine release.^{4,5}

CASE REPORT

A previously healthy 60-year-old caucasian female from northeast Brazil working in an office presented with a 6-month history of oedema and pruritus after use of a specific cosmetic. We performed patch tests with the Brazilian Contact Dermatitis Group baseline series⁶ and with the specific cosmetic that the patient brought to us, using chambers 8 mm in diameter. In <5 minutes, the patient reported intense pruritus. At this point, we decided to prematurely read the test, and observed an urticarial skin lesion where the cosmetic brought by the patient had been applied. Successive patch tests were carried out with different cosmetics, with different combinations of substances, and the appearance of the urticarial skin lesions was observed only with cosmetics that contained CG. The baseline patch test gave a positive reaction only for thimerosal on day (D) 2 and D4, which was considered to be a non-relevant reaction. Subsequently, another patch test was performed with only CG 0.5% aq. (Engetec, São Paulo, Brazil) and another control substance (caprylic acid). The patient reported intense pruritus 8 minutes after the application, and an urticarial reaction was observed with the CG preparation. Late readings of this test on D2 and D4 identified no eczematous reaction. We performed the same patch test with CG in three other patients, with negative results. The patient was instructed not to use products containing CG. There was no recurrence of urticaria after 8 months of follow-up Figures 1 and 2.

DISCUSSION

The decision to use caprylic acid as a control for CG in this setting was driven by the fact that the two substances share common chemical features, but other control preparations could probably be employed with similar results. Moreover, the baseline patch test series used in this patient contained a similar compound to CG, that is, propylene glycol 2% pet., which also gave negative results on D2 and D4. This finding corroborates that CG was the unique cause of this adverse reaction, and not glycol compounds in a broader sense.



FIGURE 1 The patient presented with contact urticaria following the use of a cosmetic on the face. Note the erythema on the face, but not on the neck

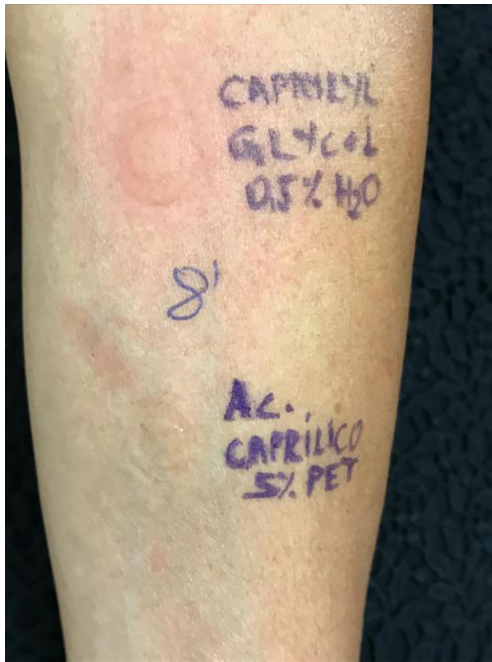


FIGURE 2 The contact test was performed with caprylyl glycol 0.5% and caprylic acid (control substance). The urticarial lesion started within 8 minutes of the application, and no reaction occurred with the control substance

Although contact dermatitis following the use of CG seems to be a rare adverse reaction, dermatologists must be aware of this adverse reaction in view of the widespread use of cosmetic formulations containing CG. Specifically, CG should be added to the list of substances potentially provoking contact urticaria.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

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