

A Case of Photoallergic Contact Dermatitis Caused by Unusual Exposure to Ketoprofen

To the Editor:

A 40-year-old nonatopic woman presented at our outpatient clinic with a figurate, acute eczematous reaction affecting the right lip commissure, extending to the upper and lower lip and chin region. The patient reported that about 7 days before, during summer holiday at the seaside, she had assumed oral granulated ketoprofen (OKI) for a toothache, by dissolving directly into her mouth, and in taking, the drug is drained on the perioral skin. She observed the onset of an acute reaction with erythema and vesiculation 24 hours after this episode (Fig. 1A). The patient negated any adverse reaction to systemic anti-inflammatory drugs that she routinely used, including ketoprofen, in the past. Otherwise, she revealed 3 episodes of acute eczematous reaction after the contact with topical products containing ketoprofen: the first at the age of 18 years occurring as acute eczema in sun-exposed areas after application of Fastum gel, the second at the age of 27 years as acute eczema of the hands after application of Artrosilene foam, and the third about last year as cheilitis after using OKI mouthwash. A complete improvement of the dermatitis was obtained with a course of oral prednisone (25 mg at starting dose) within 10 days.

She later underwent patch testing and photopatch testing that were carried out initially with an extended SIDAPA (Società Italiana di Dermatologia Allergologica Professionale ed Ambientale) standard series. Patch tests were occluded on the back for 2 days, using Finn Chambers (Epitest Ltd, Tuusula, Finland) on Scanpor tape (Norgesplaster A/S, Vennesla, Norway), and they gave negative results at days 2 and 4.

Subsequently, photopatch tests were carried out by applying in duplicate the allergens of SIDAPA photopatch series in opposite sides of the back and removing with a minimum light exposure. The series on the right side was covered with a black cloth, and the left one was irradiated with 5 J/cm² of broadband UVA (UVA 700L; Herbert Waldmann, Werk für Lichttechnik, Villingen, Germany).

A positive reaction only to photostimulated ketoprofen at days 2 (++) and 4 (+++) (Fig. 1B) was observed. The reactions

were evaluated according to International Contact Dermatitis Research Group guidelines.¹

Ketoprofen is a nonsteroidal anti-inflammatory drug belonging to the arylpropionic acid group. It is contained in several formulations for topical (Table 1) and systemic administration. It is a well-known cause of allergic and more frequently photoallergic contact dermatitis, sometimes followed by recurrent photosensitivity.^{2,3} Foti et al⁴ described 2 cases of photodermatitis caused by oral ketoprofen in patients with a clinical history of previous photoallergic contact dermatitis to this agent. In these 2 patients, there was no any contact of the oral preparation with the skin, but the rash had developed after the simple oral intake of ketoprofen followed by sun exposure.

According to our knowledge, this is the first reported case of a patient who never developed any cutaneous reaction during the previous episodes of oral intake of ketoprofen, but only when the granules came in contact directly with the perioral skin followed by exposure to the sun.



Figure 1. Acute eczematous reaction affecting the right lip commissure, and extended to the upper and lower lip and chin region (A) and positive reaction only to photostimulated ketoprofen at D4(+++) (B).

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TABLE 1. Topical Drugs Containing Ketoprofen in Italy

Artrosilene gel
Fastum gel
Ibifen gel
Hiruflog gel
Keplat medicated patch
Ketofarm gel
Ketopropene Almus gel
Ketopropene Eurogenerici gel
Ketopropene Ratiopharm gel
Ketopropene Sandoz cream
Ketopropene Teva gel
Lasoartro cream
Lasonil gel
Liotondol gel
OKI gel
Orudis gel and cream

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Comparison of allergEAZE Allergens to Chemotechnique Diagnostics Allergens in the Evaluation of Contact Allergy

To the Editor:

Patch testing is the criterion standard method for diagnosing allergic contact dermatitis. Many dermatologists use a modified North American Contact Dermatitis Group (NACDG) patch test series in practice. This series has been shown to identify the clinically relevant allergic reactions in approximately 65% of patients tested.^{1,2} In the past, Chemotechnique Diagnostics (Vellinge, Sweden) supplied the majority of allergens used for extended series patch testing. More recently in 2007, allergEAZE allergens, manufactured by Brial Allergen GmbH (Greven, Germany), have become available as another option.

To evaluate the efficacy and reproducibility of allergEAZE allergens in comparison to those from Chemotechnique Diagnostics, patients presenting for the diagnosis and evaluation of allergic contact dermatitis were tested with the top 20 allergens, determined by the NACDG 2003–2004 study period,³ produced by both Chemotechnique Diagnostics and allergEAZE (Table 1).

Twenty-one patients were identified for the study, which required 3 visits for completion of the patch testing. All of the allergens used were within their expiration dates and were stored at room temperature. Both series of allergens were kept in the same location. Three patients were not able to complete the trial. Measurements of skin reactivity were documented for the second and third visits. The patch test readings were performed by 2 of the authors (L.M.G. and R.R.B.). Allergic patch test reactions were evaluated as +, ++, or +++ based on the criteria described by the NACDG.¹ All reactions of +, ++, or +++ on the final reading were considered positive. A detailed report of the noted reactions is presented in Table 2. Results from the 18 remaining patients were compared using Cohen κ coefficient to evaluate for agreement between the 2 series. Cohen κ coefficient is a statistical way of quantifying interrater agreement, and the formula is as follows:

$$\kappa = \frac{\text{observed percentage of agreement} - \text{expected percentage of agreement}}{1 - \text{expected percentage of agreement}}$$

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The allergEAZE Allergens were donated from the company for the purpose of this study.

The authors have conflicts of interest to declare.

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