

Photodermatitis caused by oral ketoprofen: two case reports

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Introduction

Ketoprofen is an arylpropionic acid derivative that is contained in several formulations for topical and systemic administration and is widely used in Mediterranean countries because of its anti-inflammatory and analgesic properties (1). Cases of photoallergic contact

dermatitis caused by ketoprofen have been frequently reported (1–3). However, photodermatitis caused by systemic ketoprofen has never previously been described.

Case Reports

Case 1

A 43-year-old non-atopic man presented with erythematous, oedematous and vesicular lesions on his face, neck, hands, and glabrous areas of the scalp. Oedema was particularly evident on the eyelids. One day before the appearance of such lesions, the patient ingested a single sachet of ketoprofen for migraine. No other previous or concomitant medications were used. The patient also reported that, on the morning preceding the development of the dermatitis, he walked outdoors in sunny weather, wearing a long-sleeved shirt, long trousers, and moccasins. The reaction progressively worsened over subsequent days, until the patient received treatment with oral prednisone and desloratadine. This treatment caused a notable improvement of skin lesions within 1 week. The patient denied any adverse reaction to systemic anti-inflammatory drugs, including ketoprofen, in the past. However, he reported two episodes suggestive of photoallergic contact dermatitis after the application of ketoprofen gel and subsequent exposure to sunlight. On the former occasion, nearly 6 years before, topical ketoprofen was applied to the right foot for an injury, whereas in the second episode, 2 years earlier, the reaction involved the right hand, where the gel was applied because of tendinitis.

Case 2

A 29-year-old man developed a diffuse eczematous reaction on the face and photoexposed areas of the body while he was on summer holiday at the seaside. For a few days, he had been taking oral ketoprofen for back pain. The acute reaction was treated with levocetirizine and mometasone furoate cream, and this was followed by moderate photosensitivity, which subsided within 1 month. The patient reported an episode of photoallergic contact dermatitis on the left shoulder 3 years previously, after the application of ketoprofen gel to treat peri-arthritis of the left scapulo-humeral joint. He had no history of atopy or drug-related hypersensitivity reactions, and did not remember whether he had ever previously taken ketoprofen orally.

Methods

Three months after complete remission of skin manifestations, diagnostic tests were performed. Minimal erythematous

dose (MED) was assessed using mono-chromator irradiation and solar-simulator tests. Patients were also patch tested with the baseline and photopatch series of the Italian Society of Allergological, Occupational and Environmental Dermatology (Firma®, Florence, Italy). Patch tests were occluded on the back for 2 days, using Finn Chambers® (diameter 8 mm; Epitest Ltd, Tuusula, Finland) on Scanpor® tape (Norgesplaster A/S, Vennesla, Norway), and readings were made at D2 and D4. Photopatch tests were carried out by applying the allergens on one side of the back, taking the dressings off at D1, and exposing them to UVA rays at a dose of 5 J/cm² (UV 801 KL, PUVA/TL01, photochemotherapy; Herbert Waldmann, Werk für Lichttechnik, Villingen, Germany), and the opposite side of the back was covered with a black cloth. Test reactions were read at D1 and D3 after irradiation (D2 and D4 after application of tests). The reactions were classified according to International Contact Dermatitis Research Group guidelines.

Results

MED testing gave a normal response in each subject. Patch tests gave positive results with fragrance mix I (++), and photopatch tests were also positive with ketoprofen (++) in both cases. The reaction to ketoprofen increased in intensity from D2 to D4, manifesting as increased blistering spreading beyond the site of application of the test chamber. Patch tests with the eight ingredients of fragrance mix I were also performed (each ingredient at 2% in pet., except for cinnamal tested at 1% in pet.), and showed contact sensitization to cinnamyl alcohol in both cases.

Discussion

Ketoprofen is a well-known cause of photoallergic contact dermatitis (1–3). We present two cases of photodermatitis caused by oral ketoprofen in patients with previous reactions to ketoprofen gel, highlighting the possibility of a photoinduced reaction after systemic administration in patients previously sensitized to topical ketoprofen. In both cases, simultaneous sensitization to fragrance mix 1 and cinnamyl alcohol was observed in association with photoallergy to ketoprofen, in agreement with the results recently described in a case series (4).

These are the first reports of photodermatitis caused by systemic ketoprofen. A case of photocontact dermatitis caused by oral dextketoprofen has been described (5). Despite the widespread use of systemic and topical ketoprofen in Mediterranean countries, photoallergic and/or phototoxic reactions to systemic ketoprofen have never previously been reported. In our two cases, the positive photopatch test results with ketoprofen confirm the

clinical history of previous topical photoallergy to this agent. In addition, the normal MED test results obtained nearly 3 months after the index episodes suggest that the dermatitis seen was not attributable to the chronic actinic dermatitis. A transient drug-induced systemic phototoxic

reaction to ketoprofen remains possible. However, the clinical features of the dermatitis observed suggest that photoallergy after systemic administration of ketoprofen may have occurred.

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