

Case report

Contact photodermatitis due to ketoprofen and piketoprofen

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Ketoprofen and piketoprofen are non-steroidal antiinflammatory drugs (NSAIDs) of the arylpropionic acid derivative group, which are extensively used as topical antiinflammatory agents. We report the case of a girl who developed cutaneous reactions after the topical use of creams containing these substances. The photopatch tests with ketoprofen and piketoprofen were positive. When this type of topical preparations is used, avoidance of sunlight exposure should be recommended.

KEY WORDS: Photodermatitis / Arylpropionic acid / Ketoprofen / Piketoprofen.

Fotodermatitis de contacto por ketoprofeno y piketoprofeno

El ketoprofeno y el piketoprofeno son dos antiinflamatorios no esteroideos (AINEs) pertenecientes a la familia de los derivados del ácido aril-propiónico, ampliamente utilizados como antiinflamatorios tópicos. Se presenta el caso de una niña que sufrió reacciones cutáneas tras el uso de preparados tópicos que contenían estos fármacos. El estudio realizado demostró positividad de las pruebas de fotoparche con ketoprofeno y piketoprofeno. Cuando se usa este tipo de preparados, se deberían recomendar evitar la exposición solar.

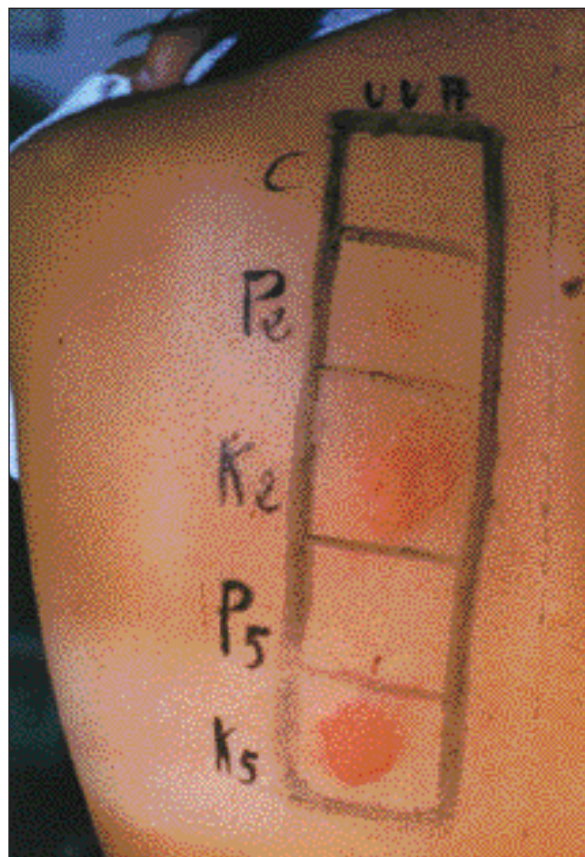
PALABRAS CLAVE: Fotodermatitis / Arilpropiónicos / Ketoprofeno / Piketoprofeno.

Ketoprofen and piketoprofen are non-steroidal antiinflammatory drugs (NSAIDs) from the group of the aryl-propionic acid derivatives. They are widely used in topical presentations in the management of musculoskeletal rheumatisms and traumatisms. The advantage of this form of administration is, besides its commodity, the infrequent development of systemic adverse effects. There have been reports of cases of contact dermatitis and photodermatitis, the latter particularly in countries of the Mediterranean area or in countries with a greater sunlight exposure¹⁻¹⁰.

We present the case of a young girl who attended our Paediatric Allergy outpatient clinic describing the development of three marked local reactions after the use of dermatologic gels containing these NSAIDs in their formulations.

CLINICAL OBSERVATION

The patient was a 14-year-old girl, whose only relevant personal antecedent was the presence of atopic dermatitis some years earlier. She came to our Paediatric Allergy outpatient clinic because she had first developed, after the application of Fastum® gel (ethyl alcohol, carbomer, diethanolamine, essence of lavender, methyl p-hydroxybenzoate, propyl p-hydroxybenzoate and ketoprofen) on her knee because of a traumatism, and after exposure to sunlight, erythema, oedema, local hyperthermia and small macular lesions with pruritus and burning in the area of application. She was initially treated with antihistamines and a topical corticosteroid, with moderate improvement. Treatment was thereupon instituted with oral 6-methyl-prednisolone, and the lesions remitted in 20 days. Some



months later, and hours after having applied the same preparation to another person, she developed pruriginous vesicles on the fingers of her hands, which progressed to intense oedema and erythema. This second episode remitted within a few days under treatment with topical steroids and oral antihistamines. The third episode occurred after the application of Calmatel® gel (hydroxypropylcellulose, propylenglycol, essence of lavender, ethyl alcohol and piketoprofen) on the neck, and again consisted in an intense local skin reaction of similar characteristics, also requiring medical therapy.

The allergological anamnesis disclosed no other exogenous agents that might have been involved in the development of these local reactions. The patient also did not describe any dermatological problems after the application of other topical preparations, cosmetics or perfumes, and she had never had problems with other drugs. After these reactions she had tolerated acetylsalicylic acid and paracetamol.

After obtaining informed consent in writing from her parents, the allergological study began with epicutaneous tests with standard contactant panels and with the components of both gels (excipients and active principles). The tests were read immediately and after 24, 48 and 72 hours. All these tests were negative with the exception of the perfume mix and lavender, which were positive after 48 and 72 hours. Photopatch tests were then performed with piketoprofen and ketoprofen (2% and 5%). The area of the back where the photopatches were applied was irradiated with UVA radiation, 10 J/cm² according to the standard technique. On the other side of the back, the same patches were again applied as controls, without irradiation. The photopatch tests were read after 48, 72 and 96 hours. The photopatch test with 2% piketoprofen was negative after 48 hours and positive after 72 and 96 hours; the photopatch tests with ketoprofen (both concentrations) were intensely positive at the same reading times (Fig. 1). On the side of the back which had not been expo-

sed to UVA radiation, all patches were negative after 48 and 72 hours, and became positive (2% and 5% ketoprofen and piktetoprofen) after 96 hours.

DISCUSSION

This is a case of contact photodermatitis in a girl, in which the clinical features and the positive skin tests suggest cross reactivity between the two NSAIDs tested. A review of the literature has not brought forward any report of this type of reactions at paediatric ages; this might be related to a lesser use of this type of preparations in children, as articular conditions are less frequent at these ages. The intensity of the clinical manifestations, which required oral steroids for their resolution, is also striking in the present case.

As the patient reported having tolerated paracetamol and acetylsalicylic acid, no challenges with other NSAIDs were performed; the only therapeutic-preventive measure was to forbid the use of any antiinflammatory drugs of the aryl-propionate group.

The positiveness of the skin tests with perfume essence mix and lavender was not associated to symptoms in this patient upon the use of various perfumes. This positiveness was probably caused by cross reactivity between the ketonic group in ketoprofen and in the dynamic aldehyde molecule present in the perfume mix¹¹.

Considering the relatively high frequency of dermatologic reactions when this type of preparations are used, and particularly with ensuing exposure to sunlight, avoidance of direct sunlight exposure should be recommended during treatment with these substances.

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