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CASE AND RESEARCH LETTERS

Allergic Contact Dermatitis to Kojic Acid☆

Dermatitis alérgica de contacto al ácido kójico

To the Editor:

A 54-year-old woman presented at our dermatology unit with facial erythema associated with itching and a burning sensation. She had been applying Neoretin Serum (Cantabria Lab., Santander, Spain) to her face for approximately 1 month (Fig. 1). She was instructed to stop using this product and was prescribed topical hydrocortisone until the erythema improved.

In accordance with the European Society of Contact Dermatitis guideline for diagnostic patch testing,[1] the patient was tested with the standard series recommended by the Spanish Contact Dermatitis Research Group (GEIDAC), supplied by BIAL-Aristegui (Bilbao, Spain), and Nerotetin Serum (semi-occlusive patch test) on her forearm. The 48- and 96-hour readings were positive (+++) for the serum only (Fig. 2A).

Four weeks later, the patient was tested with the individual ingredients of the serum (with petrolatum as the vehicle) kindly supplied by the manufacturer (Cantabria Labs, SL). These included hydroxypinacolone retinoate, N-acetylglucosamine, Cromabright, Natriquest, Alistin, Albatín, niacinamide, HidraCare, Hydromanil, acetyl hexapeptide, *Physalis angulata* extract, *Portulaca oleracea* extract, salicylic acid, kojic acid nanoliposomes, and kojic acid. The substances were tested as supplied by the manufacturer, except for kojic acid, which was applied in a 1% water solution, as previously described.[2] The patient showed no reaction at 48 hours, but re-evaluation at 96 hours showed a strong positive reaction (++) to kojic acid (Fig. 2B). The reaction was still present at day 7. The rest of the ingredients were negative.

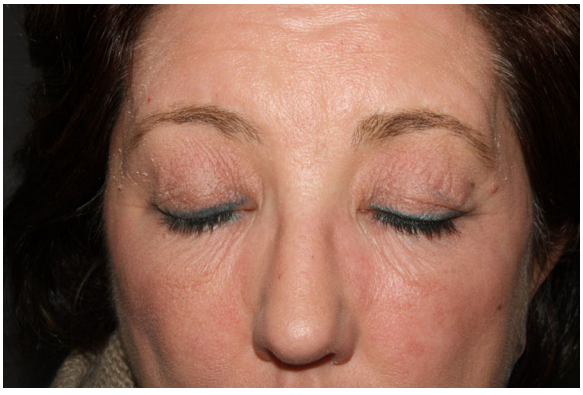

Figure 1 Eczematous lesions at the application sites of the skin lightening product.

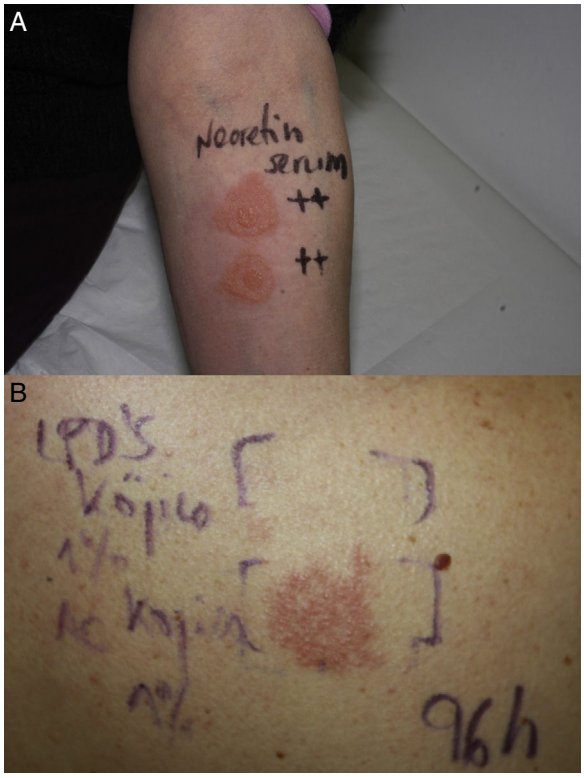

Figure 2 A, Semi-occlusive patch test with the skin lightening product on the patient's forearm at 48 hours. B, Patch test results at 96 hours with the products supplied by the manufacturer. Positive reaction to kojic acid in 1% water solution.

The kojic acid 1% solution was tested in 12 control patients and was negative in all cases at 96 hours.

Kojic acid (5-hydroxy-2-(hydroxymethyl)-4-pyrone) is widely used as a cosmetic skin lightening product and its depigmentation properties are due to its ability to chelate copper from free tyrosinase.

Kojic acid is a natural substance produced by fungi and bacteria such as *Aspergillus, Penicillium* and *Acetobacter* spp.[2] It is also a traditional Japanese ingredient found in miso (soy pasta), shoyu (soy sauce), and sake.[2] There is no

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evidence that the doses present in food are harmful,[3] or that eating food containing kojic acid causes dermatitis recurrence or any other adverse effects in patients with contact dermatitis to kojic acid.[2]

Although kojic acid is widely used, few cases of contact dermatitis to this substance have been published.[2,4,5] There have also been reports of leucoderma (hypopigmentation)[6] and even paradoxical hyperpigmentation following its use.[7]

In the largest series to date of contact dermatitis due to kojic acid, Nakagawa and Kawai[2] found that sensitization occurred within a relatively short period (within 1-12 months of use), probably due to the frequent application of the product and the strong patch test reactions, particularly on days 3 and 7, as in our case.

The authors remarked on the intensity of the patch test reactions, with stronger reactions seen on days 3 and 7 than at 48 hours. We observed the same in our patient.

We have described a case of contact dermatitis to topical kojic acid. Although there are very few reports in the literature, it is important to be familiar with this condition, as kojic acid is widely used in skin lightening products.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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An Analysis of Drug Survival, Effectiveness, and Safety in Moderate to Severe Psoriasis Treated With Ustekinumab: An Observational Study of 69 Patients in Routine Clinical Practice☆

Análisis de supervivencia, eficacia y seguridad en psoriasis moderada–grave tratada con ustekinumab. Estudio observacional de 69 pacientes en la práctica clínica habitual

To the Editor

Psoriasis is a chronic disease with a prevalence of between 1% and 3%. Its clinical manifestations and associated comorbidities have a considerable impact on affected patients.

While the advent of biologic therapy has greatly improved the control of moderate to severe psoriasis,[1] the treatment of this disease is still complicated. We have data on the patients who participated in clinical trials of biologic drugs, but these cases are often unlike those we encounter in clinical practice, as shown by a study of data from the Spanish BIOBADADERM registry.[2] That study, which analyzed data from 1042 patients on systemic therapy (classic and biologic), reported that 30% of those patients would have been excluded from clinical trials. The patients who would not have been eligible for inclusion in a clinical trial had a higher risk of developing severe adverse reactions to systemic treatment.

Since we consider that it is important to report data on patients being treated in routine clinical practice, we designed a study to evaluate the efficacy, safety, and survival of treatment with ustekinumab in our hospital. We studied patients with moderate to severe psoriasis who started treatment with ustekinumab in our specialized psoriasis clinic between 1 January 2010 and 30 April 2017.

The characteristics of the patients included in the study are shown in Table 1. Patients weighing 100 kg or less started treatment with an initial dose of ustekinumab 45 mg followed by a second dose at 4 weeks and then 45 mg every 12 weeks for at least 12 months. At 1 year, treatment optimization was considered, taking into account the efficacy

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