

These studies, therefore, contribute to highlight the important role of these cytokines in allergic skin reactions, representing a potential target for immunotherapy in the treatment of any pathology in such a high incidence as the ACD.

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The Utility of Chamber Scarification in the Detection of Allergic Contact Dermatitis to Ophthalmic Solutions

To the Editor:

Alcaftadine 0.25% ophthalmic solution is an H₁ receptor antagonist approved in 2010 in the United States for the prevention of pruritus associated with allergic conjunctivitis.¹ We found no reported cases of allergic contact dermatitis to alcaftadine. We report the first case in the English literature utilizing chamber scarification in the detection of type IV hypersensitivity to ophthalmic solutions when standard patch testing failed to elicit a remarkable cutaneous response.

A 54-year-old woman presented with a 1-year history of severe recalcitrant eyelid and upper face dermatitis with an associated burning sensation. Repeated courses of oral and topical corticosteroids failed to substantially improve the eruption or provide enduring relief. TRUE test patch test was negative 3 months prior to presentation. On physical examination, marked erythema with scale and lichenification were noted on the upper and lower eyelids bilaterally and scattered on the lower face and neck. She was tested to a steroid allergen series and an Enhanced North American Contact Dermatitis Group Standard Allergen Series (which included benzalkonium chloride). A positive reaction was noted to gold only. She was instructed to discontinue gold jewelry for 2 months and apply tacrolimus 0.1% ointment to the affected area twice daily.

One month later, she represented with marked improvement of her cutaneous findings, but her physical examination was remarkable for conjunctival injection and chemosis. Further patch testing with a Cosmetic Series and her eye drops, alcaftadine 0.25% ophthalmic solution, was performed. Concurrently, scarification of 1 of the alcaftadine chambers was performed with gentle abrasion using a 30-gauge needle. A positive reaction was noted to dodecyl gallate and deemed clinically irrelevant. A 1+ reaction on patch test to alcaftadine was noted, whereas a marked (3+) reaction was noted under the scarified patch test chamber. She discontinued alcaftadine, and tacrolimus was continued twice daily. At 12 weeks, the patient was nearly clear. Ketotifen ophthalmic solution was substituted and well tolerated.

First described by Frosch and Kligman, chamber scarification is a predictive, highly reproducible,³ skin irritation test that was created to examine and compare topically applied materials intended for repeated use on normal and diseased skin.⁴ The technique uses crisscross scarification at a forearm

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Both authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Both authors contributed to study concept and design; acquisition, analysis, and interpretation of data; drafting of the manuscript; critical revision of the manuscript for important intellectual content; administrative, technical, or material support; and study supervision.

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test site by drawing a 30-gauge needle over the skin with sufficient pressure to cleave the stratum corneum without drawing blood.⁵ This technique was utilized in our case. Chamber scarification provides access to the dermal microvasculature, allowing enhanced penetration through the epidermis.^{3,4} This case illustrates the utility of chamber scarification for the detection of type IV hypersensitivity when standard patch testing fails to elicit a remarkable cutaneous response.

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Interstitial Granulomatous Dermatitis Associated With Gabapentin

To the Editor:

We report the case of a 56-year-old white man with diabetes mellitus and hypertension who presented with a pruritic, sun-exacerbated rash of a year's duration that began on his extremities and spread to his chest, abdomen, and back. He was treated with hydrocortisone cream and also completed a week's course of oral prednisone, neither of which provided significant relief. Otherwise, he felt well, denying fever, chills, weight loss, nausea, or vomiting.

He had several red-brown papules that coalesced into indurated plaques, some with central clearing and polycyclic morphology, but no scale, crust, lichenification, or vesiculation. A lesional skin biopsy revealed interstitial granulomatous dermatitis; results of Periodic-acid Schiff and Fite staining were negative, and results of T-cell receptor gamma rearrangement studies were also negative. A chest x-ray showed normal findings.

A drug reaction was highly suspected as the cause of his eruption. Among his medications, lisinopril was deemed unlikely

as a culprit since it had been stopped 6 months previously. Of the remaining drugs in his regimen, gabapentin was thought to be most innocuous. However, the patient decided to stop gabapentin, even as he continued glipizide and metformin. To our surprise, his rash improved significantly within a month and cleared completely after another month (Fig. 1).

Gabapentin is a gamma-aminobutyric acid analog prescribed commonly for pruritus and various neuropathies. Fatigue, drowsiness, weight gain, and peripheral edema are its most common adverse effects, with skin reactions reported at lesser frequencies in the range of 1% to 10%.¹ Rash was the prime reason for discontinuing gabapentin in only 12 (0.4%) of 3100 patients in a noninterventive observational cohort study in the United Kingdom.²

Our case is the first example of gabapentin as a presumed cause of interstitial granulomatous dermatitis (IGD). Only recently has IGD been recognized as a distinct entity and a subset of photo drug reactions, with exacerbation of rash reported 24 to 48 hours after sun exposure.^{3,4} It has a predilection for the extremities and tends to affect intertriginous sites, which is peculiar for a photo reaction.³ However, Magro et al⁴ describe 20 cases of IGD displaying a wide clinical variety of distribution, affecting such sites as the thigh, groin, axilla, scalp, abdomen, chest, back, and even extensor surfaces of the upper extremities (as was observed in our case patient). Classically, IGD has a delayed onset, often months to years after initiation of the associated drug. Histologic features include diffuse interstitial infiltration by lymphocytes and histiocytes, fragmentation of collagen and elastic fibers, and vacuolar interface dermatitis. Anticonvulsants have been the most common precipitants of IGD.⁴

Although a delayed resolution of IGD from the cessation of lisinopril 6 months previously is possible, this is discordant with previously reported time intervals to clearance (mean, 8 weeks⁴; range, 1–16 weeks⁵). Gabapentin was stopped 8 weeks before clinical resolution of the rash.

We conclude that despite gabapentin's excellent reputation for safety, it must be considered in the differential diagnosis of a



FIGURE 1. Clinical improvement of the rash 1 month after gabapentin discontinuation.

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