Allergic Contact Dermatitis From Alclomethasone Dipropionate

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Attention has recently been drawn to contact allergy to corticosteroids. A case of allergic contact dermatitis from alclomethasone dipropionate (Logoderm [Glaxo, Research Triangle Park, NC], Aclovate [Schering-Plough]), a mild potency, nonfluorinated steroid introduced in 1986, is reported. The value of patch testing with a corticosteroid series is emphasized because clinical suspicion is misleading. Establishing cross-sensitizing patterns with other corticosteroids is of utmost importance to determine safe therapeutic alternatives.

ALCLOMETHASONE DIPROPIONATE is a mild potency (group VI), topical, nonfluorinated corticosteroid used since 1986 for the treatment of inflammatory conditions of the skin; it has mild side effects and is less athrophogenic than hydrocortisone, and systemic absorption after topical application is negligible.[1]

Use of topical products containing this drug has contributed to the presentation of allergic contact dermatitis, although it is rarely reported.[2]

CASE REPORT

A 25-year-old woman presented with dermatitis lasting for 1 year localized to the face, earlobes, and neck and characterized by severe erythema and edema as well as vesicles, oozing, and itching.

She had a history of sensitization to nickel, and the patient related her dermatitis to the use of costume jewelry. She was treated with a cream containing alclomethasone dipropionate (0.05%) (Logoderm [Glaxo, Research Triangle Park, NC], Aclovate [Schering-Plough]) for long periods of time to make her able to wear metal objects. She also sporadically used hydrocortisone-17-butyrate (0.1%) (Locoid cream [Sanofi-Winthrop]) to supress acute dermatitis.

The course of dermatitis presented with relapses without clearing completely.

Acute lesions were suppressed with systemic corticosteroids and antihistamines. After clearing, the patient was patch tested with the standard and corticosteroid series budesonide, 0.1 petrolatum; betamethasone-17-valerate, 1.0 petrolatum; triamcinolone acetonide, 1.0 petrolatum; alclomethasone-17,21-dipropionate, 1.0 petrolatum; clobetasol-17-propionate, 1.0 petrolatum; dexamethasone-21-phosphate disodium salt, 1.0 petrolatum; and hydrocortisone-17-butyrate, 1.0 alcohol (Chemotechnique Diagnostic A.B., Malmö, Sweden) using Finn chambers (Epitest Ltd, Oy, Hyrylä, Finland) on Scanpore (Norgesplaster A/S, Oslo, Norway) applied to the back.

Test reactions were examined at the second and seventh days. The results are summarized in Table 1. A positive reaction to nickel sulfate had a present relevance and was related to the use of costume jewelry, positivity to balsam of Peru, and fragrance mix, suggesting latent sensitization to fragrances. Positive patch test reactions to corticosteroids were not expected in this patient and were possible to disclose only when testing with a series of topical corticosteroids.

Repeated open application test with Logoderm, Aclovate (alclomethasone dipropionate 0.5% cream), and Locoid (hydrocortisone-17-butyrate 0.1% cream) was positive only to Logoderm on day 2.

We concluded that alclomethasone dipropionate was the primary sensitizer with a positive reaction to hydrocortisone-17-butyrate, possibly a cross-reaction, although simultaneous sensitization to this corticosteroid cannot be excluded.

Avoidance of cheap jewelry and identified corticosteroids resulted in clearing of the dermatitis.

DISCUSSION

Alclomethasone dipropionate (Fig 1) is a corticosteroid classified as a mild-strength steroid.

Logoderm and Aclovate cream contain 0.05% alclomethasone dipropionate; this drug belongs to group D corticosteroids according to the classification proposed by Coopman et al,[3] which groups different corticosteroids according to structural and functional similarities (Table 2).

Allergic contact dermatitis from alclomethasone dipropionate has been previously reported by Kabasawa and Kansaki in an atopic patient.[2]

Contact allergy to topical corticosteroids occurs more frequently than previously supposed, and cross-allergic phenomena are common.[4-7]

On the basis of a review of the literature and the study of Coopman et al, it may be concluded that positive patch test reactions to corticosteroids occur approximately 6-7 times more frequently within well-defined groups of structurally related substances than between corticosteroids of different groups.[3]

Cross-reactions should always be considered when treating patients with corticosteroid sensitivity to provide safe therapeutic alternatives. Budesonide, a group B, nonhalogenated corticosteroid used in topical preparations as well as for treatment

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Table 1. Patch Test Results

Patch test	% (wt/wt)	D2	D7
Nickel sulfate	5.0	++	++
Balsam of Peru	25.0	+	+
Fragrance mix	8.0	++	++
Budesonide	0.1	++	++
Alclomethasone dipropionate	1.0	++	++
Hydrocortisone-17-butyrate	1.0	++	++

of rhinitis and asthma, is not marketed in Mexico; the positive reaction represents cross-sensitivity with hydrocortisone-17-butyrate. As stated previously, budesonide is a good marker for corticosteroid sensitization.

In conclusion, corticosteroid sensitivity is difficult to suspect. Routine evaluation of patients with chronic dermatitis should include patch test with topical corticosteroids because it often discloses hidden allergy.

This fact is important because it affords the basis for a rational treatment.

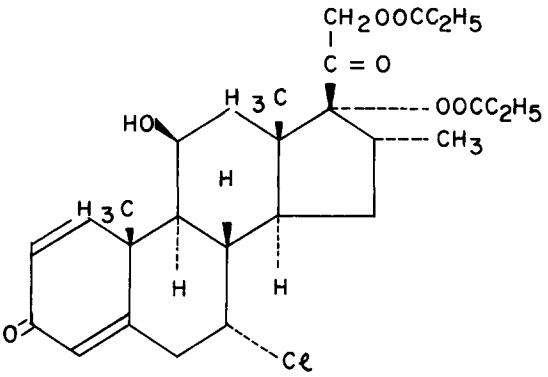

Fig 1. Chemical structure of alclomethasone dipropionate.

Table 2. Group D Corticosteroids

Alclomethasone dipropionate	Betamethasone valerate
Betamethasone dipropionate	Clobetasol-17-propionate
Clobetasone-17-butyrate	Fluocortolone caproate
Fluocortolone pivalate	Fluprednidene acetate
Hydrocortisone-17-butyrate	Hydrocortisone-17-valerate

Data from Coopman et al.[3]

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