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Allergic contact dermatomucositis to budesonide

Alfredo Iglesias-Cadarso, MD,^a Cesar Diaz, MD,^a José Julio Laguna, MD,^a and Pilar Hernandez-Weigand, MD^b *Madrid, Spain*

Although previously considered rare, recent evidence^{1, 2} shows that corticosteroid-induced allergic contact dermatitis is much more common than originally thought. Since 1981,³ budesonide has been one of the steroid molecules most widely implicated in allergic contact dermatitis although only occasionally for its use in aerosol form.⁴⁻⁶ We report a case of contact dermatitis caused by budesonide in a nasal spray, the signs of which were intense nasopharyngitis and distant skin eruption (dermatomucositis).

CASE REPORT

A 43-year-old woman who had nonallergic rhinitis with eosinophilia syndrome was treated twice a day with topical budesonide in nasal spray form (Rhinocort Aqua-R; Astra-IFESA S.A., Barcelona, Spain). Ten days later, with sore throat and worsened rhinitis, she went to her general practitioner who prescribed amoxicillin and acetaminophen with the suspicion that the patient had acute pharyngotonsillitis. After another 3 days, a highly pruritic erythematous papular eruption developed on the patient's neck and chest. She discontinued all medication, including the nasal spray, and the clinical symptoms disappeared in 7 days with no treatment; no adverse events were noted. One month later, budesonide treatment was reintroduced, and within 24 hours, she experienced an intensive worsening of her rhinitis with endonasal pain andodynophagia and repeat flare-up of the erythematous papular skin

lesions, which measured approximately 1 cm in diameter and appeared on her neck, chest, and anterior abdomen. The patient was referred to our service, where contact dermatitis caused by budesonide was suspected.

Physical examination revealed intense erythema and edema of the nasal, pharyngeal, and tonsillar mucosa and a fixed, nonscaling, erythematous papular eruption on the patient's neck, chest, and anterior abdomen. There were no eczematous lesions in the nares, on the lips, or in any other region.

Administration of budesonide was discontinued, and 1 month later, epicutaneous tests were carried out with the standard European panel and a second panel with the suspected agent and a series of corticosteroids including pure budesonide (Astra, Lund, Sweden) in several different vehicles (Table I). Challenge tests with amoxicillin, acetaminophen, three systemic steroids, and two topical steroids were subsequently performed.

RESULTS

Results of the standard European panel of tests performed with the Finn Chamber method were negative. All of the budesonide concentrations tested produced negative results at 24 and 72 hours, but highly positive results (confluent erythema, edema, and blisters over a much broader area—5 cm—than that of the 0.5 cm disk used for the patch test) at 120 hours, persisting even after 7 days. The rest of the steroids tested showed negative results. Five healthy control subjects and five patients with nickel contact dermatitis were tested with budesonide, administered in the same vehicles and at the same concentrations; and results were negative.

On the other hand, the patient tolerated optimal systemic doses of amoxicillin (750 mg, by mouth), acetaminophen (500 mg, by mouth), hydrocortisone (250 mg, intravenously), dexamethasone

From ^aAllergy Service, Hospital Puerta de Hierro; and ^bOtorhinolaryngology Service, Hospital Universitario de San Carlos, Madrid, Spain.

Reprint requests: Alfredo Iglesias, MD, Centro de Especialidades de Argüelles, C. de Alergia, c/Quintana, 11, 28008 Madrid, Spain.

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TABLE I. Patch test results

Patch test	%	Vehicle	Results
Rhinocort Aqua (budesonide)	0.2	As is	++
Budesonide	1	Petrolatum	+++
	0.1	Petrolatum	+++
	1	E/DMSO	+++
	0.1	E/DMSO	+++
	1	E/W	+++
	0.1	E/W	+++
Tiovalone (tixocortol pivalate)	1	As is	—
Dereme (beclomethasone dipropionate)	0.025	As is	—
Hydrocortisone phosphate	2.5	E/DMSO	—
Triamcinolone acetonide	1	E/DMSO	—
Dexamethasone	1	E/DMSO	—
Prednisolone	5	E/DMSO	—
Clovate (clobetasol-17-propionate)	0.05	As is	—
Celestoderm (betamethasone valerate)	0.1	As is	—

E/DMSO, Ethanol/dimethyl sulfoxide (1 : 1); E/W, ethanol/water (1 : 1).

(4 mg, by mouth) and triamcinolone (40 mg, intramuscularly), as well as tixocortol pivalate (4 mg/day, intradermally for 7 days) and beclomethasone dipropionate (4 mg/day, intradermally for 7 days) in nasal spray form.

DISCUSSION

Although steroid-induced contact dermatitis is now recognized with greater frequency, its diagnosis involves a number of problems⁷: (1) the only clinical sign may be a lack of response to the treatment or a mild intensification of the existing eruption; (2) the appropriate steroid concentrations and vehicles for skin tests have not yet been standardized; and (3) the patterns of cross-reactivity among the different steroids are not well established, making it necessary, in our opinion, to use challenge tests with several molecules.

In our patient results of all tests with budesonide proved intensely positive by the fourth or fifth day at the latest and were thus useful diagnostic tools. The tendency of patch tests for corticosteroid sensitivity to be slow to disclose positive results is well known² and can probably be attributed to the fact that the antiinflammatory pharmacologic effect of these substances delays the action of the cellular infiltrate.

As in the cases reported by Meding and Dahlberg⁶ and Peris-Tortajada et al.,⁴ we have found no cross-reactivity with other corticosteroids, including those with great structural similarity (e.g., triamcinolone). To date, few cases of contact

dermatitis caused by budesonide aerosol appear in the literature. An unusual finding of practical interest here was the absence of eczema in the nares and on the upper lip, which characterized other cases; rather, the reaction presented as an intensification of existing rhinitis, pharyngitis, and distant eruption, probably caused by systemic absorption of the budesonide.⁸

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