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Allergic contact dermatitis from benzyl alcohol

MONICA CORAZZA, LUCIA MANTOVANI, CHIARA MARANINI AND ANNAROSA VIRGILI

Clinica Dermatologica, Università degli Studi di Ferrara, Via Savonarola 9, 44100 Ferrara, Italy

Key words: benzyl alcohol (CAS 100-51-6); allergic contact dermatitis; preservatives; medicaments; essence bouquet; fragrance. © Munksgaard, 1996.

Case Report

A 46-year-old man, with atopic eczema, presented with acute eczema of the penis. He had applied numerous corticosteroid, antibiotic and antipruritic preparations. Patch tests with standard, perfumes and preservatives series were all negative, except for Bronopol (-D2/+D3). As none of his medicaments contained Bronopol, patch tests with all these preparations were carried out: only Sarnol[®] lotion gave a +D2/+D3 reaction. The constituents of this lotion, kindly supplied by Stiefel Laboratories, were patch tested, with a positive reaction both to benzyl alcohol and to the essence bouquet (Table 1). No reactions were observed to these substances tested in 5 healthy subjects. Gas chromatography of benzyl alcohol and essence bouquet (of unknown chemical composition) confirmed a high concentration of benzyl alcohol in the latter. Acute eczema of the genitals due to benzyl alcohol in Sarnol[®] lotion was therefore diagnosed.

Discussion

Benzyl alcohol (synonyms: phenylcarbinol, phenylmethanol, alpha-hydroxytoluene, benzenemethanol) is con-

tained in natural essences like jasmine, ylang-ylang, hyacinth and balsams. It is also a heat-resistant solvent and preservative. Benzyl alcohol is a weak sensitizer: De Groot et al. (1) found no positive reactions in 501 consecutively tested patients. Cases of allergy are more frequently non-occupational from topical medicaments and cosmetics (2-6). I occupational case, from a cutting oil, has also been reported (7).

Patients allergic to benzyl alcohol may show cross-sensitivity with balsam of Peru, benzyl paraben, benzyl cinnamate, etc. (2, 6, 7). Benzyl alcohol may also be contained in injectable products, cases of hypersensitivity to it in an injectable B₁₂ preparation (8) and in a sclerosing preparation (9) having been reported. The risk of systemic contact dermatitis seems to be low (10).

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Table 1. Patch test results

Allergens	D2	D3
benzyl alcohol 5% pet.	++	++
isopropyl myristate 2% pet.	-	-
polyethylene glycol 400 monostearate as is	-	-
polyethylene glycol 400 monostearate 30% pet.	-	-
essence bouquet 2% pet.	+	++
menthol 1% pet.	-	-
carbomer 940 10% pet.	-	-
glyceryl PEG 100 stearate 30% pet.	-	-
stearic acid 5% pet.	-	-
sonojell 10% pet.	-	-
cetyl alcohol 30% pet.	-	-
racemic camphor 10% pet.	-	-

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Contact sensitization to cloxacillin with oral tolerance to other β -lactam antibiotics

P. GAMBOA, I. JAUREGUI, I. URRUTIA, G. GONZÁLEZ AND I. ANTÉPARA

Sección de Alergia-Immunología, Hospital de Basurto, Avda. Montevideo 18, 48013 Bilbao, Spain

Key words: adverse effects; allergic contact dermatitis; betalactam antibiotics; cloxacillin; lack of cross-reactivity; penicillin allergy; medicaments. © Munksgaard, 1996.

Contact dermatitis due to betalactam antibiotics is an uncommon problem nowadays, since topical medicaments containing them are no longer available in many countries, though occasional sensitization among health care personnel remains possible (1, 4).

Case Reports

Case no. 1

A 31-year-old woman, working as a fish deliverer, with an ulcer on her right ankle, applied the antibiotic cloxacillin (Orbenin[®], SmithKline Beecham) to it from the vial for injection, and 8 h later, developed vesiculation and erythema at the site of application, as well as erythematous, exudative papules and vesicles on the face and upper thorax, with scaly resolution within 1 week of treatment with corticosteroids and antihistamines. She had had a similar, though less severe, episode 1 year earlier, after several days of similar topical use of Orbenin[®] vials for injection on the ulcer, following the directions of a vascular surgeon.

Case no. 2

A 47-year-old woman (following the directions of the same surgeon) also made topical use of Orbenin from vials for injection, on vascular ulcers and her lower extremities, and after 4 days of treatment, developed intense pruritus, erythema and vesicles at the site, as well as facial oedema. The symptoms improved within 1 week with systemic corticosteroid treatment.

Standard patch tests (TRUE TestTM, Pharmacia, Uppsala, Sweden) were negative in both cases. Intradermal tests with benzylpenicillin (5000 IU/ml), benzylpenicilloyl-polylysine (PPL) (10^{-5} molar) and minor determinant mixture (MDM) (monosodium benzylpenicillin 0.6 mg/ml+disodium benzylpenicilloate 0.5 mg/ml), the latter 2 from Allergopharma[®], Hamburg, Germany, were also negative at immediate and 1-day readings in both cases. Patch test were made with β -lactam antibiotics in water: sodium benzylpenicillin (100 IU/ml), and ampicillin, amoxycillin, cephalothin, cephalazolin,

ceftazidime, cefotaxime, cefuroxime, and ceftriaxone (all the latter at 50 mg/ml) with negative results up to D5 in both patients.

In case no. 1, a patch test with cloxacillin (50 mg/ml in water) was positive (+++) from D1 onwards, and was accompanied by widespread skin lesions involving both ears, neck and upper thorax, as well as the skin surrounding the leg ulcer. The patient required treatment with oral corticosteroids for several days for resolution. In case no. 2, the same patch test with cloxacillin was also positive (+++) from D1 onwards. 2 controls were negative. With the informed consent of the patients, oral challenge tests with amoxillin 500 mg and cefaclor 500 mg were carried out, without any adverse reactions, either immediately or over the next days.

Discussion

We report allergic contact dermatitis from cloxacillin in 2 women not in the health professions (2). The origin of such sensitization was the unconventional topical use of the content of the vial intended for parenteral use. According to a Medline[®] 1966-1995 search, cloxacillin is an uncommon contactant, with no reports in the literature. Fisher (2) reports dicloxacillin as a possible contactant, although no references are given. Toxic epidermal necrolysis was the only severe adverse skin reaction found attributed to cloxacillin (3). Our patients seem to be sensitized to cloxacillin specifically, without cross reactivity to other penicillins, as is usual in Type IV hypersensitivity reactions to β -lactam antibiotics (2, 4, 5). This lack of cross-reactivity of cloxacillin with other β -lactam antibiotics is also reported in laboratory animals (6).

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