

Short Communications

Sensitization to benzyl alcohol: a possible cause of "corticosteroid allergy"

PIERRE VERECKEN, CHRISTIANE BIRRINGER, ANNE-CHRISTINE KNITELIUS, DOROTHÉE HERBAUT
AND MARIE-ANNE GERMAUX

Department of Dermatology, Erasme Hospital, Free University of Brussels,
Lennikstreet 808, B-1070 Brussels, Belgium

Key words: benzyl alcohol; corticosteroid allergy; urticaria; immediate hypersensitivity; medicaments. © Munksgaard, 1998.

Case Report

A 38-year-old patient developed generalized urticaria soon after periarticular injection of Diprophos® (betamethasone dipropionate and betamethasone disodium phosphate) for tendonitis of the right shoulder. Worsening symptoms were observed after an intramuscular injection of Solu-Medrol® (methylprednisolone sodium succinate). Use of oral antihistamines led to complete resolution of the eruption within 1 week. Previous history included atopic eczema and seasonal rhinoconjunctivitis.

Patch testing with the European standard, cosmetic and corticosteroid series showed positive reactions to cocamidopropyl betaine, sodium metabisulfite and octyl gallate. Prick and intradermal (i.d.) (1/10 diluted aq. and undiluted) tests were made with Diprophos® and Solu-Medrol®. Only i.d. injections with undiluted Diprophos® and Solu-Medrol® showed positive reactions (++/++).

The preservative common to Diprophos® and Solu-Medrol® is benzyl alcohol. Subsequent prick testing with benzyl alcohol 1% aq. was negative. Intradermal injection of benzyl alcohol 1% aq. was positive (++). Finally, Depo-Medrol® (methylprednisolone acetate), which does not contain benzyl alcohol, was tested: patch, prick, 1/10 diluted aq. and undiluted i.d. injections were all negative. Control i.d. tests with benzyl alcohol 1% aq. in 10 healthy individuals were negative.

Discussion

Benzyl alcohol (BA) (alpha hydroxytoluene, phenylmethanol, phenylcarbinol) is an aromatic preservative with anaesthetic and antipruritic actions. BA is used as a solvent and as a preservative in injectable medications (corticosteroids, vitamin B₁₂), topical corticosteroids and perfumes. In patients sensitized to balsam of Peru, cross-reaction to BA has been reported.

BA is considered to be a rare sensitizer (1, 2). Sensitization to BA is well-known with injectable vitamin B₁₂ preparations (3), but probably underestimated with injectable corticosteroids, whose anti-inflammatory effect may mask any allergic reaction.

In this case of immediate-type hypersensitivity, the allergy to BA was not easy to demonstrate. It is important to note that a negative patch test reaction to BA does not exclude sensitization to it.

References

1. Fisher A A. *Contact dermatitis*, 4th edition. Philadelphia: Lea and Febiger, 1996: 243–244.
2. De Groot A, Bos J D, Jagtman B A, Bruynzeel D P, Van Joost T, Weyland J W. Contact allergy to preservatives (II). *Contact Dermatitis* 1986; 15: 218–222.
3. Lagerholm B, Lodin A, Gentile H. Hypersensitivity to phenylcarbinol preservative in vitamin B₁₂ for injection. *Acta Allergol* 1958; 12: 295–297.