

Short Communication

Airborne contact dermatitis from cacodylic acid

J. L. BOURRAIN, C. MORIN, J. C. BÉANI AND P. AMBLARD

Explorations Allergologiques et Photobiologiques, Service de Dermatologie, CHU de Grenoble, BP 217,
F-38043 Grenoble, France

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Case Report

A non-atopic 26-year-old woman, employed as a laboratory assistant for 4 years, presented with eczema on her face. The skin lesions were more acute at work and less when she was off. Her eczema seemed most severe when she had to use cacodylic acid, pyrogallol and tris buffer, without wearing either gloves or mask. Patch testing with the European standard series, pyrogallol (1% pet.) and tris buffer (1% aq.) was negative. On the other hand, patch testing with cacodylic acid was positive (Table 1). The same tests in a control subject were negative. Besides, implication of this allergen was confirmed by the symptoms disappearing with its avoidance. Also, slight relapses occurred after colleagues handled the substance in the room in which she was working.

Comment

Irritant and potentially carcinogenic, arsenic derivatives may also be implicated in allergic contact dermatitis or, more exceptionally, in cases of photo-sensitization. Cacodylic acid, or dimethylarsinic acid, is not the arsenic compound most often implicated in allergic reactions, arsenic trioxide and sodium arsenate being more often involved. Cacodylic acid is an aliphatic organic compound, well-known for its use in Agent Blue, which was used as a defoliant. Because of their lesser toxicity, organic arsenic derivatives have been preferred to inorganic derivatives in agricultural uses, such as herbicides,

Table 1. Patch tests with cacodylic acid

	D2	D3
cacodylic acid 1% aq.	+	++
cacodylic acid 0.1% aq.	–	++

fungicides or insecticides, but they are now being gradually replaced by organophosphorus compounds (1). Only cacodylic acid and monomethylarsinic acid are still used as herbicides. Conversely, in France, cacodylic acid and sodium cacodylate no longer have any medical usage.

Because of their side-effects, arsenic and its derivatives are now seldom used; yet, they are still to be found occasionally in agriculture, non-ferrous metallurgy, ceramics, glass and the textile industry, taxidermy and laboratories, where they can cause dermatitis, which, in some cases, is airborne (2, 3).

References

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