

Topical Irritant Plus Allergen for Treatment of Warts

To the Editor:

Like “skinning cats,” there are many ways to treat warts. In heralding publication in this issue of a review on contact allergen therapy,¹ it is propitious to call attention to a method that has yet to be reported in the literature, in which warts are treated with topical application of an irritant followed immediately by an allergen.

For more than 2 decades, we have routinely used the irritant, cantharidin, and the allergen, dinitrochlorobenzene (DNCB), to treat warts at medical facilities affiliated with The University of Texas Southwestern Medical Center in Dallas.

Topical DNCB alone has been shown in randomized controlled trials to clear up to 80% of warts (vs 40% or less for placebo).^{1–3} By contrast, topical cantharidin alone has not been subjected to similar testing, although much anecdotal evidence vouches for its efficacy, at least for simple warts. In 1998, the US Food and Drug Administration approved a bylaw that allowed restricted in-office use of cantharidin by physicians.⁴

Our experience strongly suggests that combined use of cantharidin with DNCB can improve the therapeutic efficacy of either chemical alone, especially for recalcitrant warts, including large, periungual, or multiple ones. We believe cantharidin allows DNCB to penetrate deeper into thicker warts and provides added inflammation akin to an adjuvant effect on the DNCB-induced T-cell response. Head-to-head randomized studies and laboratory-based research should be conducted to test these hypotheses.

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Allergic Contact Dermatitis to Methylchloroisothiazolinone/Methylisothiazolinone in Cooling Tower Technicians

To the Editor:

Methylchloroisothiazolinone/methylisothiazolinone (MCI/MI) has been widely used for the preservation of aqueous systems in cosmetics and toiletries as well as in industrial settings such as in cooling towers. It is important for preventing the growth of pathogenic and nonpathogenic microorganisms¹ and has become one of the most frequently used preservatives, leading to an increase in allergic contact dermatitis (ACD). Acticide MV14 is the most common industrial name for MCI/MI. It is a skin irritant, and there are case reports on cooling tower technicians experiencing ACD, which may have facilitated the development of allergy.^{2–4}

In our study, we describe a case series of cooling tower technicians with ACD to MCI/MI who were involved in maintenance of cooling towers, requiring them to test the cooling tower water and add additional quantities of biocides. The biocide is simply added by pouring it into the water contained in the cooling tower tanks. This preservative has been shown to be effective at very low concentrations, with the current recommended use of active ingredients ranging from 3 to 15 ppm in wash-off preparations⁵ such as shampoos and skin cleansers. However, it is used in higher concentrations in industrial applications and a concentration of less than 250 ppm is aimed for in the use of this biocide in cooling towers.

Our objectives were to raise awareness among industries of the risks of skin exposure to MCI/MI in this setting and to discuss appropriate use of protective gloves.

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TABLE 1. Cooling Tower Technicians With Allergic Contact Dermatitis to MCI/MI

Patient No., Age (y)/Sex	Distribution of Dermatitis	Strongest Reaction to MCI/MI	Treatment Received	Concomitant Positive Test Reactions
1, 32/M	Wrists	++	Topical corticosteroid	
2, 58/M	Hands, forearms	+++	Prednisolone, topical corticosteroids, antibiotics	Chromate +, cobalt +
3, 39/M	Hands	+	Topical corticosteroid	
4, 30/M	Hands, forearms	++	Prednisolone, topical corticosteroid	Nickel +
5, 36/M	Hands, forearms	++	Prednisolone, antihistamines	Thiuram mix +
6, 48/M	Hands, neck, back	++	Topical corticosteroid	Thiuram mix ++
7, 30/M	Hands, forearms	++	Prednisolone	
8, 48/M	Hands, forearms	++	Prednisolone	Chromate +, cobalt+
9, 20/M	Hands, scalp, neck	++	Prednisolone, antibiotics	Chromate +
10, 36/M	Hands	+	Hydroxychloroquine, prednisolone, antihistamines	
11, 23/M	Hands, face, legs, feet	+	Prednisolone, topical corticosteroid	Thiuram +, formaldehyde +
12, 41/M	Hands, forearms	+	Topical corticosteroid	Chromate ++, cobalt+
13, 52/M	Hands, forearms	++	Prednisolone, topical corticosteroids	Thiuram mix +
14, 53/M	Hands	+	Topical corticosteroid	
15, 21/M	Hands, forearms	+	Topical corticosteroids	Cobalt +
16, 36/M	Hands, forearms	+	Topical corticosteroids	
17, 58/M	Hands, legs, feet	+	Topical corticosteroids	
18, 26/M	Hands, neck, back	++	Topical corticosteroids	Nickel +
19, 52/M	Legs, feet	++	Cyclosporine, topical corticosteroid	Thiuram mix ++

Patients with suspected occupational ACD were referred for assessment to the Occupational Dermatology Clinic at the Skin and Cancer Foundation Inc, Melbourne, Australia.

Epicutaneous tests were applied on the upper back using Chemotechnique allergens and Finn Chambers on Scanpor tape and checked after 48 and 96 hours. Readings were recorded according to the International Contact Dermatitis Research Group guidelines. Reactions of +, ++, or +++ were considered positive, whereas reactions scored +/- were doubtful.

Data items were collected (Table 1); patients' material safety data sheets were reviewed, and inquiries were made as to appropriate glove use for protection from these biocides.

Between January 1, 1993 and June 30, 2012, a total of 3524 patients were referred to the Occupational Dermatology Clinic and 3404 underwent patch testing to MCI/MI. There were 49 positive reactions to MCI/MI. Nineteen were cooling tower technicians who were diagnosed with ACD based on their history of occupational exposure to MCI/MI, clinical course of dermatitis often involving exposed areas, and positive patch test result.

Gloves were not being worn in 9 patients with ACD (47%), and inappropriate use of gloves was reported in another 10 patients (53%), such as the use of disposable latex or disposable polyvinylchloride gloves. Material safety data

sheets on MCI/MI recommend above-elbow chemically resistant gloves such as nitrile-rubber gloves to be worn.

We recommend employers to undertake a risk assessment of the use of biocides that would ensure the appropriate and safe use of these products. Training and education of personnel in the safe handling of biocides need to occur before commencing work. Appropriate personal protective equipment is important. We consulted an expert in protective gloves, Mr Paul Cacioli, who advised that, on the basis of chemical properties of MCI/MI, the recommended gloves are above-elbow thick reusable nitrile gloves (personal communication, March 7, 2014).

In conclusion, we wish to raise awareness, particularly among industry groups, of the possibility of cooling tower technicians developing ACD from MCI/MI and recommend the appropriate use of protective gloves.

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