

Occupational facial contact dermatitis caused by methylchloroisothiazolinone/methylisothiazolinone in a stainless steel aerosol spray

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doi:10.1111/cod.12773

Key words: aerosol; allergic contact dermatitis; CAS no. 26172-55-4/2682-20-4/55965-84-9; case report; face eczema; methylchloroisothiazolinone/methylisothiazolinone.

Methylchloroisothiazolinone (MCI)/methylisothiazolinone (MI) is a preservative that is widely used in cosmetics and industrial and household products (1). In recent years, an epidemic of allergic contact dermatitis caused by MI has been observed (1), followed by an almost parallel increase in contact allergy to MCI/MI. We present a patient who developed facial allergic contact dermatitis after exposure to MCI/MI in a stainless steel cleaner spray.

Case Report

A 21-year-old non-atopic woman with face eczema was referred for allergy testing (Fig. 1). She worked at a burger restaurant, where part of the job included cleaning. The symptoms decreased when she was off work. Patch testing was performed with the European baseline series, including departmental extensions to it, the more specialized series with fragrances and rubber (Allergeaze[®], Smart-Practice Europe, Barsbüttel, Germany), and the patient's own private products. Test series were applied on the upper back under occlusion for 48 h in Finn Chambers[®] (8 mm; Smartpractice, Phoenix, AZ, USA) on Scanpor[®] tape (Norgesplaster, Alpha, Vennesla, Norway). The tests were read on day (D) 2, D3, and D7, according to ESCD guidelines (2). In addition, prick testing was performed with several fruits, vegetables, meat, fish, and latex.



Fig. 1. Facial eczema caused by methylchloroisothiazolinone/methylisothiazolinone in a stainless steel aerosol spray.

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Conflicts of interest: T. Todberg has served as investigator for Novartis and Leo Pharma. All authors declare that there are no conflicts of interest pertinent to the present publication.

Positive reactions were found to nickel (+++ on D2, ++ on D3, and +? on D7), cobalt (++ on D2, ++ on D3, and +? on D7), tixocortol-21-pivalate (+ on D3, and + on D7), formaldehyde (++ on D3, and +? on D7), MCI/MI (++ on D2, + on D3, and +? on D7), and MI (++ on D2, ++ on D3, and +? on D7). A thorough examination of

the 20 material safety data sheets showed that a stainless steel cleaning spray named 'McD SG' (Sealed Air, Charlotte, NC, USA), which the patient had used on a daily basis when working at the restaurant, contained MCI/MI. The product did not contain formaldehyde. None of the other cleaning products nor the patient's own private products contained formaldehyde, MI, or MCI/MI. Furthermore, it was concluded that the positive patch test reaction to nickel was of past relevance, as the patient had a history of contact dermatitis caused by nickel in a trouser button. The positive patch test reactions to cobalt, formaldehyde and tixocortol-21-pivalate were of unknown relevance. All prick tests gave negative results.

On the basis of these observations, the patient was diagnosed with occupational allergic contact dermatitis caused by MCI/MI in aerosols from the cleaning spray. She came back to our clinic 2 months later, reporting that she was no longer employed at the burger restaurant, and that the eczema had cleared without any treatment.

Discussion

Recently, allergic contact dermatitis caused by MCI/MI has been described in a number of occupational cases (3). Sensitization to either MCI/MI or MI alone is often caused by direct skin contact with products containing these substances, for example leave-on make-up, wet-wipes, and domestic cleaning products (4, 5). However, exposure to the allergen can easily be missed in cases where it is airborne, as in our case. A few recent case reports have shown that MI in paints (6) and MCI/MI in ironing water used as a spray (7) can cause airborne facial contact dermatitis, but, to our knowledge, this is the first case report describing allergic contact dermatitis caused by MCI/MI in a spray used occupationally. It was recently shown that domestic cleaning products often contain high concentrations of MCI/MI and are even mislabelled in some cases, which highlights the need for further legal intervention in this area (8, 9).

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