Presumed airborne contact allergy to methylisothiazolinone causing acute severe facial dermatitis and respiratory difficulty

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Background

Methylisothiazolinone (MI) is a biocidal preservative (1) that is commonly used in cosmetics, wet-wipes, paint, and household products. MI is used in cosmetics (now supported only for rinse-off products) in combination with methylchloroisothiazolinone (MCI) at a concentration of 3.75 ppm. Since 2005, MI has additionally been permitted as a stand-alone preservative in cosmetic products at up to 100 ppm. There is now an epidemic of contact allergy to MI (2). Recently, several cases of airborne contact dermatitis caused by MI have been published and highlighted (3).

Case Report

A 52-year-old female presented with acute severe facial dermatitis and dyspnoea. Her past medical history included mild psoriasis, but no previous history of asthma or other respiratory conditions.

The symptoms started 10 days prior to presentation, with an itchy rash over the cheeks, which progressed to involve the entire face, eyelids, upper chest, and dominant hand. Temporary resolution of the rash was achieved with a 5-day course of prednisolone; however, the rash recurred within 3 days of discontinuing the drug. The patient then became acutely dyspnoeic, and required emergency treatment. The symptoms had started 2 days after she had painted her living room with B&Q Value™ Matt Emulsion, and the flare of symptoms shortly followed her resumption of painting. When examined, she had a confluent scaly, erythematous rash affecting the face and exposed areas of the chest. The upper and lower eyelids were involved, and there was significant peri orbital oedema.

The patient was treated again with prednisolone and topical steroids, and advised to avoid entering the painted room for 2 months. She avoided all cosmetic products containing MI. Subsequent patch testing (Finn...
Chambers® on Scanpor® tape) confirmed the pre-patch test diagnosis of allergic contact dermatitis; there was a 3+ reaction to MI 0.2% aq. on D2. The B&Q Value™ Matt Emulsion paint was analysed in the Department of Environmental Science, Aarhus University and confirmed as containing circa 100 ppm MI (Rossana Rossi, personal communication).

Discussion

Airborne contact dermatitis caused by MI has been recognized in people using paint (4) and in paint factories (5), and dyspnoea has been reported in patients with airborne contact allergy to MI (6, 7) and MCI/MI (8). The lack of regulations regarding its use in paint means that there is no current maximum permitted concentration and no requirement to label paints and other non-cosmetic products (other than household detergents) in which MI is used as an ingredient. As with its use in cosmetics, urgent action is required to assess and manage the risk of using MI in paints and other non-cosmetic products. Given the profound effects that MI can have on the skin and other organ systems, greater transparency is needed from industry in terms of labelling to allow consumers to choose products safely, and the inclusion of MI under Classification Labelling and Packaging regulations is essential.

References