

Atypical and severe airborne isothiazolinone contact dermatitis mimicking Kaposi–Juliusberg syndrome

Aur lie Du-Thanh¹, Muriel Lalande², Nadia Raison-Peyron¹ and Olivier Dereure¹

¹Department of Dermatology, Montpellier University Hospital, 34295 Montpellier, France and ²Department of Paediatrics, Montpellier University Hospital Montpellier, France

doi:10.1111/cod.12690

Key words: airborne contact dermatitis; case report; isothiazolinones; paints.

Case Report

A 14-year-old boy with a history of mild atopic dermatitis (AD) was referred with an acute and extensive facial eruption.

Physical examination showed erythematous and vesicular lesions, some of which were clearly umbilicated and agglomerated (Fig. 1a), located on the face, neck, and distal forearms, including very oedematous eyelids. Cervical lymphadenomegaly was observed, but no mucosal involvement, respiratory symptoms or fever were present. Superinfection of his AD with herpes simplex virus (HSV) was suspected, and intravenous aciclovir 30 mg/kg daily was immediately initiated.

However, no clinical improvement occurred after 48 h (Fig. 1b), and HSV polymerase chain reaction and Tzanck cytodiagnosis gave negative results. Moreover, the patient reported that the ceiling above his bunk bed had been freshly painted when the eruption occurred. Suspecting

airborne contact dermatitis, we introduced topical steroids once daily, and this resulted in complete remission within a week.

Patch testing was performed with IQ Ultra ChambersTM (Chemotechnique Dagnostics, Vellinge, Sweden) with the European baseline series and octylisothiazolinone (OIT) 0.01% pet. and benzisothiazolinone (BIT) 0.05% pet. Readings on day (D) 2 and D3 (according to ESCD recommendations) showed 2+ reactions to methylisothiazolinone (MI) 0.2% aq. and to methylchloroisothiazolinone (MCI)/MI 0.02% aq. on D2 and D3; both MI and MCI/MI were contained in the ceiling paint. This case was reported to the regional poison centre.

Discussion

MI and MCI are inexpensive and efficient biocides. Since 2010, various reports of contact dermatitis have been related (1) to these widely used preservatives, mainly with MI and MCI/MI in rinse-off and leave-on cosmetic products, although the MCI/MI mixture is no longer authorized for use in the latter. The isothiazolinones, including BIT and OIT, are also used as industrial biocides in glues, household products, inks, etc. (2). In water-based paints, isothiazolinones are mainly present as BIT and MI rather than as MCI/MI, and airborne and systemic contact dermatitis, possibly with mucosal involvement, have

Correspondence: Aur lie Du-Thanh, D partement de Dermatologie, H pital Saint-Eloi, CHU de Montpellier, 80 avenue Augustin Fliche, 34295 cedex 5 Montpellier, France. Tel: +33 467 336 937; Fax: +33 467 336 958. E-mail: a-du_thanh@chu-montpellier.fr

Conflicts of interest: The authors declare no conflict of interest related to this topic.

No funding supported this work.



Fig. 1. (a) erythematous and vesiculous lesions, some of which clearly umbilicated and agglomerated, associated with oedematous eyelids, initially diagnosed as Kaposi–Juliusberg syndrome (b) no improvement after 10 mg/kg/3 times a day of intravenous aciclovir for 48 hours.

been reported (3), although, in our case, the ceiling paint contained only MCI/MI and MI, and no respiratory symptoms occurred.

Unlike for cosmetic products, it is not mandatory to report the presence of isothiazolinones in the safety data sheets of such products. Moreover, the concentrations of isothiazolinones may be high, because no maximum approved concentration is in effect (2). Some clinical presentations of allergic contact dermatitis to isothiazolinones can mimic lupus, cutaneous lymphoma, drug reactions, urticaria, etc. (1). The severity of this case mimicking a superinfection of AD with HSV delayed the prescription of topical steroids. Photo-aggravation of contact dermatitis induced by MI has been reported (1),

and may have worsened the clinical presentation in the current case.

Prior sensitization in this patient may have occurred through the use of MCI/MI-containing cosmetic products or repeated exposure to the ceiling paint itself.

The odourless nature of these water-based paints allows inhabitants to occupy a freshly painted room, but MI/MCI-sensitized patients should be aware that isothiazolinones may still emanate for up to 40 days (4). The presence of MCI/MI in paints is sometimes mentioned on the can. However, for previously MCI/MI-sensitized patients, alternative paints are not easily available and may be expensive, and it is difficult for them to avoid recently painted public places or workplaces.

References

- 1 Aerts O, Baek M, Constandt L et al. The dramatic increase in the rate of methylisothiazolinone contact allergy in Belgium: a multicentre study. *Contact Dermatitis* 2014; **71**: 41–48.
- 2 Friis U F, Menné T, Flyvholm M A et al. Isothiazolinones in commercial products at Danish workplaces. *Contact Dermatitis* 2014; **71**: 65–74.
- 3 Lundov M D, Zachariae C, Menné T, Johansen J D. Airborne exposure to preservative methylisothiazolinone causes severe allergic reactions. *BMJ* 2012; **345**: e8221.
- 4 Lundov M D, Kolarik B, Bossi R et al. Emission of isothiazolinones from water-based paints. *Environ Sci Technol* 2014; **48**: 6989–6994.