

CONTACT POINT

Allergic contact dermatitis in a child caused by isothiazolinones in a “noise putty”

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Methylisothiazolinone (MI) and methylchloroisothiazolinone (MCI) are the main allergens of the last decade in adults, and cases are being increasingly reported in children. We present a case of fingertip dermatitis in a young boy caused by exposure to a “noise putty” related to contact allergy to MCI/MI.

CASE REPORT

A 7-year-old boy was referred because of a 1-year history of recalcitrant chronic hand dermatitis. He had a history of asthma and familial atopy, but not of atopic dermatitis. Clinical examination showed eczema involving all fingertips (Figure 1A). This was not influenced by school or sport activities. He had been treated with topical steroids, achieving partial improvement but with many relapses. Patch testing was performed by the use of IQ Ultimate chambers (Chemotechnique Diagnostics, Vellinge, Sweden) fixed on the upper back with an occlusion time of 48 hours with Urgoderm (URGO, Chenove, France). The patient was tested with the European baseline series adapted for children¹ and with his hygiene and cosmetic products, topical drugs applied, school materials, and various toys. Readings were performed on day (D) 2 and D3. Patch test results were strong positive on D2 (+ +) and D3 (+ +) for MI 2000 ppm aq., MCI/MI 200:100 ppm aq., and 1 of the patient's toys: a manufactured “noise putty” (Figure 1B). We also observed a weak positive reaction to fragrance mix I 8% pet. The “noise putty” was deemed to be of probable clinical relevance. Indeed, the patient's father noticed that the fingertip dermatitis worsened after the boy handled it. We instructed the parents and the boy to stop using this paste, and to avoid MCI and MI as preservatives. At a 1-year follow-up, resolution of symptoms with no relapse was documented.

DISCUSSION

Both preservatives, MCI and MI, are well-known causes of allergic contact dermatitis resulting from the use of cosmetics, detergents, and industrial products. In small children, the main sources are nappies and wet wipes.^{2,3} “Noise putty” is a manufactured playdough that has become very popular among children, and that makes amusing noises. The “noise putty” in the present case had been bought at a fairground, with the information on the packaging stating “produced in China”, but containing no ingredients list. Therefore, we contacted one of the biggest French importers of “noise putty” to inquire about the usual composition; it gave us a non-exhaustive list, despite our repeated requests: “polyvinyl alcohol, glycerine, borax, ethyl paraben, deionized water and various dyes”. The regional Poison Control Centre confirmed that isothiazolinones are used in dyes contained in many playgels such as “noise putty” or “slime”. The composition of “noise putty” is close to that of “slime”, a homemade playgel that is also very popular, and that is made from a mixture of boric acid, dyes, glues, and detergents, and also possibly contains MCI/MI.⁴ A recent case of hand dermatitis related to “slime”⁵ has been reported, although the authors had not identified the responsible agents.

We assume that preservatives such as isothiazolinones contained in dyes, glues or detergents could be involved in causing allergic contact dermatitis secondary to prolonged skin contact with such gels. The positive reaction to fragrance mix I could be also relevant, because this noise putty may also contain fragrance. As illustrated by the other, current cases of contact allergy related to both MCI and MI that have been recently reported, there is a need to improve the transparency of products containing MI/MCI.⁶ Moreover, this case highlights the importance of testing all handled products, even if these are toys, which may appear to be innocent.



FIGURE 1 (A), Fingertip dermatitis with erythematous and fissured lesions. (B), Positive reactions to methylchloroisothiazolinone (MCI) (++), methylisothiazolinone (MI) (++), "noise putty" (red circle) (++), and fragrance mix I (+)

Conflict of interest

The authors declare no potential conflict of interests.

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