

Contact Dermatitis in a Child from Methychloroisothiazolinone and Methylisothiazolinone in Moist Wipes

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Abstract: Contact allergic reactions to methychloroisothiazolinone/methylisothiazolinone also widely known as Kathon CG have been reported extensively reported. It is one of the most commonly used preservatives in rinse-off products, cosmetics, and others. Herein, a case of a 50-year-old girl is presented with chronic dermatitis in the anogenital area. The patient was patch tested and had positive reaction to Kathon CG. The detailed history taking revealed that the allergen was present in the moist cleaning wipes used instead of dry toilet paper. The presented case serves as a basis for a appraisal of the use of this preservative in wet wipes. In addition, the duration of the patch test protocol in children has also been discussed.

Since its introduction in 1980s, contact allergic reactions to methychloroisothiazolinone and methylisothiazolinone (MCI/MI) have been extensively reported (1,2). The mix of preservatives also known as Kathon CG is one of the most commonly used preservatives in rinse-off products, cosmetics, paints, adhesives, and cutting oils (3). Kathon is one of the most common sensitizers in preservatives, although its concentration is the subject of constant regulations (3,4).

CASE REPORT

A 5-year-old girl was diagnosed with chronic dermatitis in the anogenital area. The lesions had appeared 9 months before and were treated with wide range of

topical antimycotics, antibiotics, and corticosteroids with partial temporary improvement. On physical examination, perianal erythema and small erythematous firm papules were observed in the anogenital and gluteal regions (Fig. 1). Routine laboratory findings were within the normal ranges. The microbiological investigation was negative. Patch testing with the European baseline series (Chemotechnique Diagnostics, Vellinge, Sweden) was performed. Because of the girl's fidgety temperament, the test patch was unintentionally removed from her back after only 9 h of contact. Nevertheless, test reading immediately after patch removal and on day 3 (Fig. 2) showed a positive reaction to MCI/MI. The reaction was interpreted initially as urticarial, because delayed-type hypersensitivity reaction 9 h after contact

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Figure 1. Erythematous firm papules in the gluteal region.

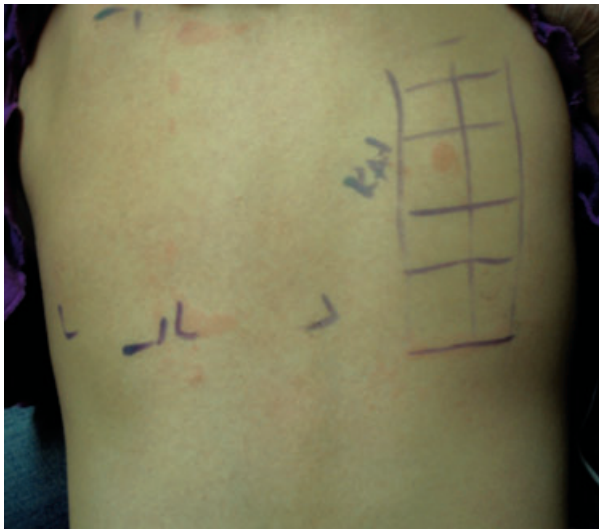


Figure 2. Positive patch test reaction to methylchloroisothiazolinone and methylisothiazolinone on day 3.

with the allergen is unlikely, but the persistence of the reaction during the second reading (72 h later) and its morphology consistent with eczema but not a wheal corresponded more to delayed-type hypersensitivity reaction. Detailed history revealed that the patient used moist cleaning wipes instead of toilet paper. MCI/MI was disclosed as the ingredient in the toilet wipes. The skin lesions improved significantly 1 week after cessation of use of the wipes and short-term treatment (7 days; once daily application) with methylprednisolone aceponate 0.1%. During 1 month of follow-up no relapse was observed.

DISCUSSION

According to the current legislation, MCI/MI is permitted in concentrations up to 15 ppm in all cosmetics in

the European Union, whereas in the United States, such concentration is permitted only in rinse-off products (leave-on cosmetics may be preserved with only 7.5 ppm in the United States) (2). Nevertheless the prevalence of contact allergy to MCI/MI is high (2–4).

Recent studies together have described 12 cases of perianal dermatitis caused by MCI/MI or MI alone in toilet wet wipes, all in adults (5–7). In general, MCI/MI is most frequently found in intimate hygiene and hair care products and is responsible for a considerable number of cases of dermatitis to these products (8). A positive patch test to MCI/MI in a child with history of facial and diaper dermatitis using wet wipes containing the allergen has been formerly described (9), but the authors did not discuss the outcome after avoiding the moist wipes. In our case, discontinuation of use of the wet wipes resulted in significant improvement.

Another important point illustrated by this case is the 9-month period before exact diagnosis was made and allergen avoidance was advocated. Subjects with perineal dermatitis continue using wet wipes believing that “cleaning” the area will have a beneficial effect on their disease. That is why such individuals are good candidates for patch testing.

Patch testing in children is considered a safe procedure, although it is sometimes challenging to perform especially in hypermobile individuals and can result in loss of the patch test material (10). A recent extensive review disclosed that “tailored patch testing” increases the relevance of patch positive reactions in children (11). In our case, the patient reacted to MCI/MI after only 9 h of contact with the test patch. Keeping in mind the risk of losing contact with the allergens, the protocol of patch testing in children should be challenged in prospective studies, and if it does not decrease the test sensitivity, the contact duration time could be shortened. This suggestion could be a topic for future research.

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