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Methylisothiazolinone in rinse-off products: additional fuel to the world epidemics of allergic contact dermatitis to isothiazolinones

DOI: 10.1111/bjd.13880

ORIGINAL ARTICLE, p 115

In 2005 methylisothiazolinone (MI) was allowed in cosmetics as a preservative at the maximum level of 100 ppm (Cosmetic Directive 2005/42/EC). In four to five years several cases of allergic contact dermatitis (ACD) were published, mainly due to wet wipes for personal hygiene, hair and facial cosmetics, deodorants and sunscreens. In a few years a real epidemic of ACD from MI was installed in Europe¹ and all over the world. In some contact dermatitis clinics more than 10% of patients tested were allergic to MI, mostly with relevant reactions.^{2,3} Young children were also frequently affected.^{2,4}

Although there were several alerts from dermatologists and the European Society of Contact Dermatitis,¹ the European regulatory authorities that should protect European citizens have not yet agreed on a final decision to prohibit this potent sensitizer in cosmetic products.

As leave-on cosmetics with such high concentrations of MI are known to elicit ACD and, eventually, also sensitize individuals, some in the cosmetic industry have been slowly removing MI from their leave-on products. Until now, apart from clinical data, there was no proof that rinse-off products with MI could also elicit ACD and they are still frequently found in the market. The work elegantly developed by Yazar et al.⁵ produced definitive proof that rinse-off products containing MI, even at half the maximum accepted level (50 ppm), elicit ACD in MI-sensitized individuals. Therefore, MI at 50 ppm is not safe and further studies should be done to determine a 'safe' level, if any, of MI in rinse-off cosmetics.

Yazar et al.⁵ developed a modified repeated open application test (ROAT), with several daily applications of a soap on the forearm, followed by washing, which mimics the daily life exposure to rinse-off products. It is a real-use test that is feasible and can be further used to study other chemicals in rinse-off products.

As previously shown for another preservative that had to be removed from cosmetics, methylidibromoglutaronitrile,⁶ the documentation of ACD from repeated exposure to MI in rinse-off products suggests that even after very short repeated exposures some chemicals penetrate the stratum corneum, bind skin proteins and accumulate in the skin, reaching the threshold epidermal concentration to initiate the innate and adaptive immune responses responsible for ACD. This may be

particularly significant in products containing detergents, like liquid soaps used repeatedly for hand washing, as they enhance skin penetration of sensitizing chemicals and additionally cause minor irritation, thus enhancing both sensitization and elicitation of ACD.

Funding sources

No external funding.

Conflicts of interest

None declared.

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Quality control in Mohs micrographic surgery

DOI: 10.1111/bjd.13843

ORIGINAL ARTICLE, p 123

In describing the technique of Mohs surgery to a patient, an easy analogy is to compare this to removing an unwanted weed from your lawn. Imagine a weed growing in the middle of the lawn; you take a spade and dig around it and turn over the clod of earth. If you can see roots coming through the surface of the clod of earth you know you have cut through them and need to make the hole bigger in order to remove