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Contact allergy to methylisothiazolinone: Has there been any change? Experience of a UK centre.

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We previously reported a significant rise in the incidence of cases of contact allergy to methylchloroisothiazolinone (MCI) and methylisothiazolinone (MI) (1), an observation that has been reproduced worldwide (2). It has been shown that the individuals most at risk are females aged >40 years with facial eczema who use cosmetics (3). It was noted that, among those sensitized, the majority of products used were either leave-on products ($n = 35$) or wet wipes ($n = 29$), rather than rinse-off products such as shampoos ($n = 47$), in a study conducted from August 2011 to June 2013 (4). The European Society of Contact Dermatitis (ESCD) recommended the inclusion of MI at 0.2% aq. in the baseline series in 2013 (5).

In December 2013, the Scientific Committee on Consumer Safety of the European Commission (SCCS) recommended a ban on MI in leave-on products and limiting its use in rinse-off products to 15 ppm (6). Contemporaneously, Cosmetics Europe, a European trade body, in response to the epidemic and following discussion with the ESCD, recommended to their members that MI be removed from leave-on skin products, including cosmetic wet wipes, and that this would be expected to reduce the induction of contact allergy to MI. Cosmetics Europe suggested that this be implemented as soon as feasible, but did not include a recommendation to recall products (7). European regulation is awaited, although the SCCS was requested in 2015 to give a further opinion on the use of MI in rinse-off and leave-on hair products at up to 100 ppm (8).

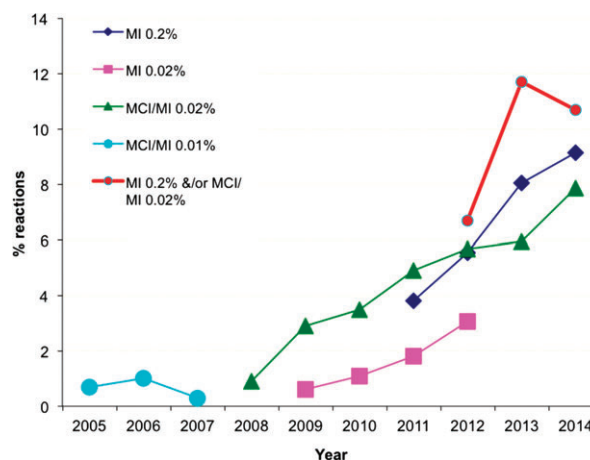


Fig. 1. Incidence of contact allergy to methylchloroisothiazolinone (MCI)/methylisothiazolinone (MI) and MI by year in the patch test population (Leeds, UK).

The aim of this study was to assess the impact of the advice in 2013 over the following year.

Methods and Results

All cases of contact allergy to MCI/MI and/or MI to the end of 2014 were identified. We tested 608 patients in 2013 and 777 patients in 2014. The British baseline series includes MCI/MI 0.02% aq. and MI 0.2% aq. Readings were performed on day (D) 2 and D4. Our data on the incidence of contact allergy to these chemicals (1) was updated (Fig. 1). Of those allergic to MCI/MI and/or MI, 85% were sensitized to MI.

To enable time for products in the domestic environment to change after the issuance of guidance in December 2013, in the 6 months from July to December 2014,

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Table 1. Methylisothiazolinone (MI)-containing products used by 36 MI-sensitized patients presenting from July to December 2014

Rinse-off products	
Shampoo	35
Conditioner	22
Mouth wash	2
Face rinse-off	1
Hand wash	3
Rinse-off body/bath product	15
Leave-on products	
Leave-on body product	10
Leave-on hair product	6
Deodorant	1
Face leave-on	4
Eye leave-on	2
Wet wipes	0
Non-cosmetic products	
Dish-washing liquid	7*
Clothes wash	2
Clothes conditioner	2

*Used without gloves by 4.

36 patients sensitized to MI were asked to bring in their domestic products, and the ingredient labelling was scrutinized to identify the presence of MI. The distribution of products containing MI is shown in Table 1. This was significantly different from the distribution previously reported (4) in a study in which the data were similarly collected ($p < 0.0001$, χ^2 -test comparing leave-on with rinse-off products).

After we had confirmed a change in domestic MI-containing products from November 2014 to January 2015, the 28 patients sensitized to MI were asked to clarify the time of onset of their dermatitis. This was to establish whether any had become sensitized after the change had been confirmed to occur. The results are shown in Fig. 2.

Of the 3 patients developing dermatitis after July 2014, 1 had scalp dermatitis, 1 had facial dermatitis, and 1 had axillary dermatitis. They were exposed to, respectively, shampoo, shower gel, liquid soap, and hand cream; a leave-on face cream and face wash; and deodorant containing MI.

Comment

Despite an awareness of the problem of contact allergy to MI since early 2013, the number of incident cases continues to rise.

A survey of products used by patients sensitized to MI, between 6 and 12 months after the Cosmetics Europe recommendation, shows a significant shift towards the

**Fig. 2.** Onset of dermatitis caused by methylisothiazolinone (MI) in 28 patients allergic to MI presenting between November 2014 and January 2015 inclusive.

use of the preservative in rinse-off products (Table 1) as compared with previous data (4). It is of note that no patients brought in wet wipes containing MI, showing that this was sufficient time for the majority of products to change in shops and be replaced in the domestic environment. Despite this change, patients sensitized to MI continue to experience symptoms from exposure to MI in rinse-off products (9).

Examination of the time of onset of dermatitis in patients presenting at the end of 2014 shows that patients continued to be sensitized after the 6-month period in which the use of MI as a preservative was shown to have changed. All had been exposed to MI in leave-on cosmetic products or non-cosmetic domestic and occupational (10) products, such as detergents. Sensitization could therefore be occurring as a result of these exposures, and legislation will be required

to implement a ban before we will be able to determine whether industry advice to limit the use of MI to rinse-off products at 100 ppm will be sufficient to prevent sensitization.

In conclusion, despite a demonstrable and significant change in the use of MI as a preservative in cosmetic products, it remains to be seen whether we are yet at the peak of the current epidemic.

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