

considered as a novel trigger of inducible urticaria and FTU might be considered as a distinct form of inducible urticaria.

Esen Özkaya, MD

Department of Dermatology and Venereology
Istanbul Faculty of Medicine, Istanbul University
Istanbul, Turkey
profeo@istanbul.edu.tr

REFERENCES

1. Gallo R, Fausti V, Parodi A. Traction urticaria. *Contact Dermatitis* 2009;61:301–302.
2. Özkaya E, Yazganoğlu KD. Follicular traction urticaria. *J Am Acad Dermatol* 2012;67:e234–e236.
3. Duman H, Topal IO, Kocaturk E. Follicular traction urticaria. *An Bras Dermatol* 2016;91(5, suppl 1):64–65.
4. Raison-Peyron N, Reymann V, Bessis D. Follicular traction urticaria: a new form of chronic inducible urticaria? *Acta Derm Venereol* 2017;97:522–523.
5. Patel SS, Lockey RF. Follicular traction urticaria. *J Allergy Clin Immunol Pract* 2018;6:1383.

Methylisothiazolinone: Still on Leave-on Products, but No Longer on Baby Wipes

To the Editor:

Methylisothiazolinone (MI) and its related thiazolinone derivatives including methylchloroisothiazolinone (MCI) and octylisothiazolinone are potent biocides used as preservatives in primarily industrial products such as paints, solvents, and cleaning fluids. Methylisothiazolinone and MCI are potent sensitizers and can cause both occupational and nonoccupational allergic contact dermatitis (ACD). Methylchloroisothiazolinone and MI, at a ratio of 3:1, used as a combined biocide, caused a rise in nonoccupational cases of ACD in the late 1980s, related to primarily cosmetic non-rinse-off personal care products.¹

In 2005, MI began to be used as a noncombination preservative in cosmetic and household products at a maximum

concentration of 100 ppm, 26 times the MI level in the MCI/MI combination preservative.² This change drove an epidemic of nonoccupational MI ACD in the early and mid-2010s. The first and most memorable of these cases were related to MI-containing wet wipes/baby wipes.³ These cases and the resulting medical and media attention drove increased regulation in the European Union and new guidelines by the leading US-based trade association.⁴ This attention has impacted the choice of preservative use among baby wipe manufacturers, resulting in a near absence of MI in commercially available baby wipes.

The 100 best-selling items in the product categories baby wipes, lotions, and sunscreens from 2 major North American online retailers (Amazon and Walmart), as listed on their Web sites, were screened for MI and other preservative contents by ingredient list screening (Table 1, Supplemental Digital Content 1, <http://links.lww.com/DER/A19>, and Table 2, Supplemental Digital Content 2, <http://links.lww.com/DER/A20>). After excluding identical products with minor packaging differences (eg, different packaging sizes or dispensing mechanisms), 31 and 44 unique baby wipe products were identified from these 2 retailers. Of these, none listed MI or other isothiazoline derivatives as ingredients—for 5 products, no ingredient lists were available (Table 1). In contrast, 6.6% (4/61) and 5.4% (3/55) of the unique lotions from these retailers contained MI. Similarly, 12.2% (6/49) and 6.8% (3/44) of sunscreens from these retailers contained MI. Common preservatives used in baby wipes from these retailers include phenoxyethanol, sodium benzoate, and sorbic acid derivatives (Table 1).

Baby wipes have historically been a relevant avenue for MI sensitization and elicitation. However, based on this

TABLE 1. Preservatives Listed in Popular Baby Wipes From 2 Online Retailers

	Retailer 1 n = 31	Retailer 2 n = 39*
Phenoxyethanol	14 (45)	20 (51)
Sodium benzoate	20 (65)	23 (59)
Sodium citrate/citric acid	22 (71)	26 (67)
Potassium sorbate/sorbic acid	8 (26)	8 (21)
Iodopropynyl butylcarbamate	0	4 (10)
Silver citrate/silver dihydrogen citrate	3 (10)	1 (3)
Ethylhexylglycerin	2 (6)	1 (3)
Sodium levulinate/levulinic acid	1 (3)	2 (5)
Citrus grandis seed extract	1 (3)	2 (5)
Parabens	0	2 (5)
Dehydroacetic acid	1 (3)	1 (3)
Alcohol	1 (3)	1 (3)
Others (DMDM hydantoin, benzalkonium chloride, p-anisic acid)	0	3 (8)

Values are number (percentage).

*Ingredient lists were not available for 5 products.

C.R.H. is the son of Curt Hamann, CEO of SmartPractice, a company that manufactures and sells patch testing materials. The other authors have no funding and conflicts of interest to declare.

C.R.H. and S.S. had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. C.R.H. and K.A.Z. did the study concept and design. All authors did the acquisition, analysis, and interpretation of data; drafting of the article; critical revision of the article for important intellectual content; administrative, technical, or material support; and study supervision.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's Web site (www.dermatitisjournal.com).

DOI: 10.1097/DER.0000000000000438

© 2019 American Contact Dermatitis Society. All Rights Reserved.

convenience sampling of best-selling baby wipes available on popular online retailers, MI is no longer commonly used in baby wipes, despite the lack of any new MI-related regulation. In contrast, other leave-on products such as lotions and sunscreens still contain MI. These data reinforce previous studies that indicate a general decrease in MI use in wet wipes⁵ and an increase in clinically relevant MI ACD from non-wet wipe products.⁶ Clinicians should be aware that patients with MI allergy may not have baby wipe-related ACD or an ACD distribution associated with baby wipe use. Accordingly, other leave-on products such as lotions and sunscreens may be more likely MI ACD-eliciting culprits. Of note, only 1 of 7 lotions and 0 of 9 sunscreens containing MI also contained MCI, suggesting that the combination MCI/MI preservative is infrequently used. Phenoxyethanol, sodium benzoate, and sorbic acid derivatives were frequently used as preservatives in these products, in line with previous studies.⁵ However, these allergens are relatively weak sensitizers, and their relevance to baby wipe-related ACD to date is low. Iodopropynyl butylcarbamate allergy prevalence in North America has nearly doubled in the past decade and was found in approximately 6% of baby wipes.⁷ Baby wipes contain other nonpreservative allergens such as decyl and lauryl glucosides and fragrances. Clinicians should query patients with MI contact allergy on all personal care product use—current relevance of baby wipe use in MI-positive patch test patients may be low.

Carsten R. Hamann, MD, PhD
Section of Dermatology
Dartmouth-Hitchcock Medical Center
Lebanon, NH
hamann511@gmail.com

Sakshi Sahni, MD
Department of Internal Medicine
University of Illinois at Chicago
Chicago, IL

Kathryn A. Zug, MD
Section of Dermatology
Dartmouth-Hitchcock Medical Center
Lebanon, NH

REFERENCES

- de Groot AC. Methylisothiazolinone/methylchloroisothiazolinone (Kathon CG) allergy: an updated review. *Dermatitis* 1990;1(3):151–156.
- Castanedo-Tardana MP, Zug KA. Methylisothiazolinone. *Dermatitis* 2013;24(1):2–6.
- Zirwas MJ, Hamann D, Warshaw EM, et al. Epidemic of isothiazolinone allergy in North America: prevalence data from the North American Contact Dermatitis Group, 2013–2014. *Dermatitis* 2017;28(3):204–209.
- Abrams R. Growing Scrutiny for an Allergy Trigger Used in Personal Care Products. *New York Times*. January 24, 2015. Available at: <https://www.nytimes.com/2015/01/24/business/allergy-trigger-found-in-many-personal-care-items-comes-under-greater-scrutiny.html>. Accessed November 1, 2018.
- Aschenbeck KA, Warshaw EM. Allergenic ingredients in personal hygiene wet wipes. *Dermatitis* 2017;28(5):317–322.
- Schwensen JF, Uter W, Bruze M, et al. The epidemic of methylisothiazolinone: a European prospective study. *Contact Dermatitis* 2017;76:272–279.
- DeKoven JG, Warshaw EM, Belsito DV, et al. North American Contact Dermatitis Group patch test results 2013–2014. *Dermatitis* 2017;28(1):33–46.

Herpes simplex–like Fixed Drug Eruption Induced by Fluconazole Without Cross-reactivity to Itraconazole

To the Editor:

Fixed drug eruption (FDE) consists of reddish plaques appearing on the same locations after repeat administration of a drug. The eruption can affect mucosae, where the lesions can be misdiagnosed as herpes simplex lesions.

A 20-year-old woman was referred to our department because of burning, recurrent, facial and labial, and genital mucosa lesions. The lesions resolved without any treatment, leaving post-inflammatory hyperpigmentation. She was receiving monthly prophylactic treatment with fluconazole and famciclovir for recurrent vaginal candidiasis and genital herpes simplex, which was confirmed by immunoglobulin G against herpes simplex virus 1+2 seroconversion in peripheral blood. Lesions on the labial mucosa began after starting treatment with both drugs.

Physical examination showed a purpuric red plaque on her left cheek and grouped vesicles on an erythematous base on her lower lip (Fig. 1). The lesions were located on the same site as previous episodes and started within 60 to 120 minutes after intake of fluconazole and famciclovir. After a 4-week pause, a systemic provocation test was negative to famciclovir and positive to fluconazole, with identical lesions appearing on the same locations 24 hours after oral intake of fluconazole 150 mg. Because of recurrent candidiasis, after a negative provocation test with itraconazole, she was prescribed this azole with good tolerance and continued famciclovir without new episodes in the next 4 months.

Fixed drug eruptions are most commonly caused by systemic antibiotics, metazolone, nonsteroidal anti-inflammatory drugs, paracetamol, and allopurinol, whereas naproxen and cotrimoxazole are the most common drugs related to FDE on mucosae.¹ Diagnosis can be performed by patch testing the suspected drug on lesional skin or by systemic provocation test.² Because the first method is safer and its efficacy has been proved, it should be performed first, except when location of the lesions makes impractical this

All of the authors participated in the conception and design of the manuscript, which was carefully read and fully approved.

DOI: 10.1097/DER.0000000000000451

© 2019 American Contact Dermatitis Society. All Rights Reserved.