



Alkyl Glucosides: American Contact Dermatitis Society 2017 “Allergen of the Year”

The American Contact Dermatitis Society was formed in 1989 to promote, support, develop, and stimulate information about contact dermatitis and occupational skin disease to the medical community. In partnership with the North American Contact Dermatitis Group (NACDG), an investigative research group that monitors evolving trends in contact dermatitis, Ponciano Cruz, MD, editor of *Dermatitis*, created the “Allergen of the Year” award. Donald Belsito, MD, section editor, has spearheaded the process for choosing the allergen annually.

The initial intent for developing the award was academic in nature. The Allergen of the Year distinction draws attention to not only those agents with significant clinical effects but also those that are underrecognized or currently obsolete or for which exposure patterns have changed. In light of these goals, alkyl glucosides have been deemed the 2017 Allergen of the Year.¹

Alkyl glucosides are a family of gentle surfactants that are increasingly used in a wide range of cosmetic and household products. Far from being new, these were first introduced in the 1930s and were superseded by synthetic detergents. The industry has recently rediscovered them to replace synthetic products such as sodium lauryl sulfate, which have endured negative coverage in the lay press. Indeed, alkyl glucosides possess very mild irritant properties, and they are of a natural renewable origin because they result from the condensation of glucose extracted from potato starch and fatty alcohol derived from coconuts.

The 19 distinct members of the alkyl glucoside family have been deemed safe for use by the Cosmetic Ingredient Review Expert Panel, a group composed of toxicologists, pharmacologists, pathologists, and dermatologists.² Decyl glucoside and lauryl glucoside are most widely used and are found in rinse-off products such as shampoos, hair conditioners, and shower gels, as well as leave-on products including deodorants, moisturizers, and sunscreens.

Allergic contact dermatitis from alkyl glucosides does not occur frequently. The NACDG has been routinely patch testing patients with decyl glucoside since 2009 and reports sensitiza-

tion rates less than 2%. The group has, however, noted an upward trend, from 1.5% in 2009 to 2012 to 1.7% during the period of 2013 to 2014, and finally, a preliminary rate of 1.9% for the current period.

Why then did such a group of seemingly innocuous and natural products gain the attention of contact dermatitis specialists? The first reason is the need to raise awareness among the dermatological and industrial communities of these emergent allergens. Second, as already noted by the NACDG and a French research group, the increasing use of glucosides in products that contact the skin will likely translate to an increase in the rate of sensitization. Finally, although the incidence of allergic contact dermatitis to alkyl glucosides remains low, a positive patch test reaction to this allergen has a high degree of clinical relevance.

Although alkyl glucosides are not potent sensitizers, certain patient populations may be at an increased risk of sensitization, most notably atopic individuals. It has been shown that atopic patients (those with childhood-onset eczema, asthma, or rhinitis) are at an increased risk for developing allergic contact dermatitis to less potent allergens.³ Furthermore, alkyl glucosides are commonly found in products marketed as hypoallergenic or being safe for sensitive skin. Therefore, it is not surprising that 86% of the decyl- and/or lauryl-glucoside-allergic patients in the McGill University Health Centre cohort had a history of atopy.⁴

Patients and physicians need to be made aware of this group of allergens to appropriately screen for unrecognized allergic contact dermatitis to alkyl glucosides, particularly in patients with atopic dermatitis.

Denis Sasseville, MD, FRCPC

From the Division of Dermatology
Department of Medicine
McGill University Health Centre
Montreal, Quebec, Canada

REFERENCES

1. Loranger C, Alfalah M, Ferrier Le Bouedec MC, et al. Alkyl glucosides in contact dermatitis. *Dermatitis* 2017;28(1):5–13.
2. Fiume M, Bergfeld WF, Belsito DV, et al. Final report on the safety assessment of sodium cetearyl sulfate and related alkyl sulfates as used in cosmetics. *Int J Toxicol* 2010;29(suppl 3):115S–132S.
3. Kohli N, Nedorost S. Inflamed skin predisposes to sensitization to less potent allergens. *J Am Acad Dermatol* 2016;75(2):312–317.
4. Sasseville D, Loranger C, Al Falah M, et al. Contact dermatitis from alkyl glucosides; the McGill University Health Centre experience. Orally presented at: 28th Annual Meeting of the American Contact Dermatitis Society; March 2, 2017; Orlando, FL.

Address reprint requests to Denis Sasseville, MD, FRCPC, Montreal General Hospital, Room L8.210, 1650 Cedar Ave, Montreal, Quebec H3G 1A4, Canada. E-mail: denis.sasseville@mcgill.ca.

The author has no funding to declare.

The author receives royalties from UpToDate (Wolters Kluwer Health).

DOI: 10.1097/DER.0000000000000290

© 2017 American Contact Dermatitis Society. All Rights Reserved.