



Intolerance to Sweet Treats in a Child

Phillip Lieberman, MD, and Scott H. Sicherer, MD

For more Ask the Expert questions and answers, visit www.aaaai.org/ask-the-expert.aspx.

Question:

I would like your help in working-up a 5-year-old female child who has an intolerance to sugars since the past 4 years. Mum noticed that when her daughter ate foods with sugars (candy, doughnuts, cakes, ice cream, etc), she would develop abdominal cramps, followed by a red rawness in her pubic area as well as around her perineum. Mum generally treats this with warm water dabs, yeast creams and water-based eczema moisturizers, and children's Tylenol. The girl can tolerate sugar-free treats without having these symptoms. She has not had any nausea or vomiting, but she gets pale and her eyes get grey and sunken with these episodes and she has also complained about a lump in her throat. The girl can eat wheat without having symptoms, but refined cane sugar causes the above symptoms. She has not had any problems with lactose. Her weight has been fluctuating, but she is reaching her height and weight milestones. She has never had anaphylactic reactions, and when she does have episodes when she gets pale this typically lasts all evening, her appetite is reduced, and she generally improves over the course of 2 to 3 days. Mum has not treated this with antihistamines. The girl can eat vegetables, fruits except banana (less than half), apples, oranges, and melons; cherries tend to aggravate her symptoms. No other foods trigger these reactions. Thank you for your help.

Initial response from Dr. Lieberman:

Thank you for your inquiry. I am referring your question to Dr. Scott Sicherer, who is an international expert in food allergy. As soon as we receive Dr. Sicherer's response, we will forward it to you. Thank you again for your inquiry.

Response from Dr. Scott H. Sicherer:

If you are questioning whether these symptoms are food related, it is possible to sort this out with oral food challenges. In general, when a family or patient poses an unusual set of symptoms, or symptoms not usually attributed to food allergy or intolerance, or chronic symptoms with unclear connection to foods, as being food-related, then physician-supervised elimination and oral food challenges, especially double-blind, placebo-controlled oral food challenges, are an excellent means of determining whether a relationship exists.¹⁻³

Here, the symptoms are clearly not ones that are typical for food allergy (an immune response). However, it would be interesting to see food diaries on days with and without symptoms to potentially discover additional insights that may be of diagnostic relevance. I think you are correct to refer to the problem as an intolerance, an adverse reaction that is not immune mediated. The cause of an intolerance can be metabolic, pharmacologic, toxic, or undefined.¹

Here, an oral food challenge might not be my first step because the symptom pattern does seem to be potentially consistent with an intolerance. These types of symptoms, or relationships of symptoms to carbohydrates, could be explained by a metabolic disorder, such as sucrose-isomaltase deficiency or fructose 1,6 biphosphate aldolase deficiency, or by malabsorption such as fructose malabsorption. With fructose malabsorption, ingestion of foods with a higher ratio of fructose to glucose results in symptoms. Apple and melons, corn syrups, some artificial sweeteners, etc, are higher in fructose than glucose, for example, whereas banana is not. This does not follow the stated pattern entirely. Often, these or other enzyme deficiencies that affect carbohydrate metabolism, or carbohydrate malabsorption syndromes, are variable in severity and symptoms distribution. Thus, the amount of sugar that causes symptoms may vary and the symptoms themselves may vary (vomiting, lethargy, diarrhea, hypoglycemia, seizures, poor growth, hepatic disease, and sometimes "excoriated buttocks"). One wonders if the buttocks rash is secondary to irritation from diarrhea as well. In any event, specialized tests may be needed, and I would typically refer to a gastroenterologist and geneticist for additional evaluation ahead of food challenges.

REFERENCES

1. Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, et al. Guidelines for the diagnosis and management of food allergy in the United States: report of the NIAID-sponsored expert panel. *J Allergy Clin Immunol* 2010;126(6 Suppl):S1-58.
2. Nowak-Węgrzyn A, Assa'ad AH, Bahna SL, Bock SA, Sicherer SH, Teuber SS. Work Group report: oral food challenge testing. *J Allergy Clin Immunol* 2009; 123(6 Suppl):S365-83.
3. Sampson HA, van Wijk RG, Bindslev-Jensen C, Sicherer S, Teuber SS, Burks AW, et al. Standardizing double-blind, placebo-controlled oral food challenges: American Academy of Allergy, Asthma & Immunology-European Academy of Allergy and Clinical Immunology PRACTALL consensus report. *J Allergy Clin Immunol* 2012;130:1260-74.

Available online December 20, 2012.

Cite this article as: Lieberman P, Sicherer SH. Intolerance to sweet treats in a child. *J Allergy Clin Immunol: In Practice* 2013;1:422. <http://dx.doi.org/10.1016/j.jaip.2012.11.003>.

J Allergy Clin Immunol: In Practice 2013;1:422.
2213-2198/\$36.00

© 2013 American Academy of Allergy, Asthma & Immunology
<http://dx.doi.org/10.1016/j.jaip.2012.11.003>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.