

Circumpapillary Retinal Ridge in the Shaken-Baby Syndrome

TO THE EDITOR: The discussion in *Images in Clinical Medicine* by Hylton and Goldberg (July 8 issue)¹ implies that the circumpapillary retinal ridge is pathognomonic for the shaken-baby syndrome. This belief was widely held among ophthalmologists, pediatricians, and forensic pathologists until it was recently challenged.^{2,3} Two studies used a process associated with evidence-based medicine to evaluate the premise that the perimacular retinal fold is diagnostic of shaken-baby syndrome. Both studies found that such a presupposition was not supported by solid scientific evidence. Since a diagnosis of shaken-baby syndrome can lead to serious conse-

quences, doctors should be cautious when using the circumpapillary retinal ridge as the sole criterion for this diagnosis.

Kittisak Kulvichit, M.D.

Chulalongkorn University
Bangkok 10330, Thailand
kittisak.k@chula.ac.th

1. Hylton C, Goldberg MG. Circumpapillary retinal ridge in the shaken-baby syndrome. *N Engl J Med* 2004;351:170.
2. Donohoe M. Evidence-based medicine and shaken-baby syndrome: part I: literature review, 1966-1998. *Am J Forensic Med Pathol* 2003;24:239-42.
3. Lantz PE, Sinal SH, Stanton CA, Weaver RG Jr. Perimacular retinal folds from childhood head trauma. *BMJ* 2004;328:754-6.

Gluten Contamination of Commercial Oat Products in the United States

TO THE EDITOR: Research published in the *Journal*¹ and elsewhere² strongly suggests that persons with celiac disease can consume moderate amounts of uncontaminated oats. Nonetheless, celiac disease organizations in the United States continue to advise against the consumption of oats because of concern that commercial oat products may be contaminated with wheat, barley, or rye during harvesting, transporting, milling, and processing.² However, little information is available on the contamination of oat products in the United States. Here I report an assessment of selected brands of oats for gluten contamination.

Twelve containers of rolled or steel-cut oats, representing four different lots of each of three brands, were purchased in Massachusetts between October 2003 and March 2004. The three brands were Quaker (Chicago), selected because it is a popular brand of oatmeal in the United States; Country Choice (Eden Prairie, Minn.), because it is certified to be organic; and McCann's (Odlum Group, Naas, Ireland), because it is processed in an oats-only facility. Containers were sent unopened to an independent laboratory (Food Allergy Research and Resource Program, Lincoln, Nebr.) for analysis. Samples of oats were homogenized and analyzed in duplicate, according to instructions from the manufacturer (R-Biopharm, Darmstadt, Germany). The Ridascreen Gliadin sandwich enzyme-linked immunosorbent assay (ELISA), recently val-

idated by the Working Group on Prolamin Analysis and Toxicity, was used for the analysis.³ This

Table 1. Gluten Content of Commercial Oat Products.*

Product and Lot No. or Best-by Date	Gluten		
	Extraction A	Extraction B	Mean of A and B
	ppm		
McCann's Steel Cut Irish Oats, 28-oz container			
150134	12	12	12
150934	BLD	BLD	BLD
270934	24	21	23
160634	705	745	725
Country Choice Old Fashioned Organic Oats, 18-oz container			
July 13, 2004	131	130	131
Dec. 13, 2004	200	220	210
Dec. 17, 2004	116	124	120
March 12, 2005	BLD	BLD	BLD
Quaker Old Fashioned Oats, 18-oz container			
L309; Jan. 9, 2005	326	349	338
L309; Jan. 18, 2005	997	944	971
L110; Feb. 12, 2005	1861	1752	1807
L109; March 22, 2005	375	352	364

* BLD denotes below the limit of detection. The limit of gluten detection for the assay used in this analysis was 3 ppm.

ELISA uses R5, a monoclonal antibody, that is equally sensitive to the prolamins of wheat, barley, and rye and that is insensitive to the prolamins of corn, rice, and oats.⁴ Internal controls for this assay include six gliadin standards of known concentration. The limit of gluten detection is 3 ppm. For this assessment, oat samples were considered gluten-free if they contained 20 ppm or less of gluten, in accordance with the current Codex limit for naturally gluten-free foods.⁵

The results of the analysis are presented in Table 1. On the basis of the mean gluten level in the two extractions, 3 of the 12 oat samples contained gluten levels of less than 20 ppm. The other nine samples had gluten levels that ranged from 23 to 1807 ppm. All three brands of oats had gluten levels above 20 ppm in at least two of the four samples tested. Ranges according to brand were as follows: McCann's, below the limit of detection to 725 ppm; Country Choice, below the limit of detection to 210 ppm; and Quaker, 338 to 1807 ppm.

Contamination of commercial oats in the United States with wheat, barley, and rye is a legitimate concern for persons with celiac disease. None of

the three brands of oats included in this assessment could be relied on to be gluten-free.

Tricia Thompson, M.S., R.D.

348 Summer St.
Manchester, MA 01944

Supported in part by a research grant from the Celiac Sprue Association.

1. Janatuinen EK, Pikkariainen PH, Kempainen TA, et al. A comparison of diets with and without oats in adults with celiac disease. *N Engl J Med* 1995;333:1033-7.
2. Thompson T. Oats and the gluten-free diet. *J Am Diet Assoc* 2003;103:376-9.
3. Immer U, Vela C, Méndez E, Janssen F. PWG collaborative trial of gluten in gluten-free food through "Cocktail ELISA." In: Stern M, ed. Proceedings of the 17th Meeting of the Working Group on Pro-lamin Analysis and Toxicity, October 3-6, 2002, London, England. Zwickau, Germany: Verlag Wissenschaftliche Scripten, 2003:23-33.
4. Valdés I, García E, Llorente M, Méndez E. Innovative approach to low-level gluten determination in foods using a novel sandwich enzyme-linked immunosorbent assay protocol. *Eur J Gastroenterol Hepatol* 2003;15:465-74. [Erratum, *Eur J Gastroenterol Hepatol* 2003;15:839.]
5. Joint FAO/WHO Food Standards Program, Codex Committee on Nutrition and Foods for Special Dietary Uses. Draft revised standard for gluten-free foods. CX/NFSDU 98/4. July 1998:1-4. (Accessed October 19, 2004, at <http://intl-spectrum.diabetesjournals.org/cgi/content/full/15/3/197>.)

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