Differences in the Prevalence of Obesity in Children With Celiac Disease

o the Editor: We read with great interest the article written by Venkatasubramani et al entitled "Obesity in Pediatric Celiac Disease" (1). In their retrospective study of 143 children with celiac disease, 5% had a body mass index above the 95th percentile at the time of diagnosis. As a result they conclude that obesity is not a rare finding in newly diagnosed celiac patients. We previously reported 220 newly diagnosed celiac patients (7.2 ± 4.3 years) in our center between 2000 and 2008 and found that only 1 patient (0.45%) had a body mass index above the 95th percentile (2). It is well known that obesity is an epidemic in the United States because of the prevalence of fast-food nutrition (3). Therefore, the differences in the prevalence of obesity in celiac disease in different cultures may be related to dietary habits and economic conditions.

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REFERENCES

- Venkatasubramani N, Telega G, Werlin SL. Obesity in pediatric celiac disease. J Pediatr Gastroenterol Nutr 2010;51:295-7.
- Balamtekin N, Uslu N, Baysoy G, et al. The presentation of celiac disease in 220 Turkish children. Turk J Pediatr 2010;52:239–44.
- 3. Baskin ML, Ard J, Franklin F, et al. Prevalence of obesity in the United States. *Obes Rev* 2005;6:5–7.

Authors' Response

o the Editor: We appreciate the opportunity to respond to the letter by Drs Balamtekin, Baysoy, and Demir. We agree that the epidemic of obesity in the United States may contribute to our finding that 5% of newly diagnosed patients with celiac disease were obese. However, this does not change our conclusions that celiac disease may be more common than previously thought and that in the appropriate clinical setting celiac disease must be considered in the differential diagnosis even in obese children.

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"Evaluation of Esophageal Motility Using Multichannel Intraluminal Impedance in Healthy Children and Children With Gastroesophageal Reflux": Comments

o the Editor: With interest we read the article by Di Pace et al, which describes esophageal motility patterns in healthy

children and children with gastroesophageal reflux (GER) as assessed by multichannel intraluminal impedance (MII) (1). We, however, believe that the term "healthy children" is used inappropriately because all of the included patients underwent a 24-hour pH-MII study for the evaluation of GER symptoms and consequently are not healthy. The authors have grouped children into a healthy control group and a GER group, yet the exact criteria for this selection remain undefined. Identification of patients with GER was presumably based on adult normative data; however, these data are not transferable to children.

Patients with nonacidic reflux were excluded from the study, whereas pediatric studies have shown that nonacidic GER episodes are important in terms of the number of GER episodes and symptom association (2–4). Furthermore, compared with previous literature, the presented data suggest heavy selection because there is a substantially lower number of GER events (2–4).

In addition, data should be interpreted with caution, given the statistical tests used and the reporting thereof; for instance, in Table 1, it is not surprising that all of the parameters are statistically different because patient grouping was based on these criteria.

We believe that the conclusion drawn, stating that the data presented can serve as a reference value for healthy children, is not supported by the data.

> Clara Loots, Michiel van Wijk, Rachel van der Pol, Marije Smits, Marc Benninga, and Taher Omari Academic Medical Centre Amsterdam, The Netherlands

REFERENCES

- Di Pace MR, Caruso AM, Catalano P, et al. Evaluation of esophageal motility using multichannel intraluminal impedance in healthy children and children with gastroesophageal reflux. J Pediatr Gastroenterol Nutr 2011:52:26–30.
- Lopez-Alonso M, Moya MJ, Cabo JA, et al. Twenty-four-hour esophageal impedance-pH monitoring in healthy preterm neonates: rate and characteristics of acid, weakly acidic, and weakly alkaline gastroesophageal reflux. *Pediatrics* 2006;118:e299–308.
- 3. Pilic D, Frohlich T, Noh F, et al. Detection of gastroesophageal reflux in children using combined multichannel intraluminal impedance and pH measurement: data from the German Pediatric Impedance Group. *J Pediatr* 2011;158:650–4.
- Van Wijk MP, Benninga MA, Omari TI. Role of the multichannel intraluminal impedance technique in infants and children. J Pediatr Gastroenterol Nutr 2009;48:2–12.

Authors' Reply

o the Editor: We sincerely appreciate the interest of Dr Loots and colleagues in our article (1) and we thank them for their comments

We agree that the term "healthy children" can be considered inappropriate because these children underwent pH-multichannel intraluminal impedance for suspected symptomatic gastroesophageal reflux (GER). However, this term has been used to distinguish patients with GER and patients without GER in a study conducted for the evaluation of GER. We know that for ethical reasons we cannot have completely healthy children as a control group. The used criteria have been previously considered by other

authors for the interpretation of conventional pH-metry and multichannel impedance tracings in the pediatric age group (2-4).

Only for specific impedance motility parameters we have considered adults parameters (5,6), but, as far as we know, no motility study in children based on pH-multichannel intraluminal impedance has been published. We agree that these data are not completely transferable to children, but in a previously published study (7,8) on patients with esophageal atresia and congenital diaphragmatic hernia, we underscored some important differences between "healthy" children and patients with congenital malformations.

We have decided to exclude in this first analysis patients with nonacidic reflux; we agree that nonacidic GER episodes are important in terms of esophageal lesions (9,10), and therefore we believe that the characteristics of reflux (acidic or nonacidic) may influence the esophageal motility.

The need to evaluate a homogeneous group of patients (only with acidic GER) has influenced the number of enrolled patients studied, which was small. Therefore, our results should be interpreted with caution and should be considered preliminary data. Further analysis in children with GER and in children with congenital malformation is worthwhile.

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REFERENCES

- Di Pace MR, Caruso AM, Catalano P, et al. Evaluation of esophageal motility using multichannel intraluminal impedance in healthy children and in children with gastroesophageal reflux. J Pediatr Gastroenterol Nutr 2011;52:26–30.
- Mattioli G, Pini-Prato A, Gentilini V, et al. Esophageal impedance/pH monitoring in pediatric patients: preliminary experience with 50 cases. *Dig Dis Sci* 2006;51:2341–7.
- Vandenplas Y, Belli D, Boige N. A standardised protocol for the methodology of esophageal pH monitoring and interpretation of the data for the diagnosis of gastroesophageal reflux. Statement of the European Society of Pediatric Gastroenterology and Nutrition. *J Pediatr Gastroenterol Nutr* 1992;14(S2):467–71.
- Rudolph CD, Mazur LJ, Liptak GS, et al. Guidelines for evaluation and treatment of gastroesophageal reflux in infants and children: recommendations of the North American Society of Pediatric Gastroenterology and Nutrition. *J Pediatr Gastroenterol Nutr* 2001;32(S2): S1-31.
- Shay S, Tutuian R, Sifrim D, et al. Twenty-four hour ambulatory simultaneous impedance and pH monitoring: a multicenter report of normal values from 60 healthy volunteers. Am J Gastroenterol 2004; 99:1037–43.
- Tutuian R, Vela MF, Balaji NS, et al. Esophageal function testing with combined multichannel intraluminal impedance and manometry: multicenter study in healthy volunteers. *Clin Gastroentrol Hepat* 2003;1: 174–82.
- Di Pace MR, Caruso AM, et al. Evaluation of oesophageal motility and reflux in children treated for esophageal atresia with the use of combined multichannel intraluminal impedance and pH monitoring. *J Pediatr Surg* 2011. In press.
- Di Pace MR, Caruso AM, Catalano P, et al. Evaluation of oesophageal motility and reflux in children treated for congenital diaphragmatic hernia with the use of combined multichannel intraluminal impedance and pH monitoring. J Pediatr Surg. In press.
- Wang VS, Feldman N, Maurer R. Esophageal motility in nonacid reflux compared with acid reflux. Dig Dis Sci 2009;54:1926–32.
- Gutschow CA, Bludau M, Vallböhmer D, et al. NERD,GERD, and Barrett's esophagus: role of acid and non-acid reflux revisited with combined pH-impedance monitoring. *Dig Dis Sci* 2008;53:3076–81.

Nissen Fundoplication: Bridging the Gap Between Pediatric Surgeons and Gastroenterologists

To the Editor: Nissen fundoplication is an effective surgery for medically refractory cases of gastroesophageal reflux disease (GERD). With advances in pediatric surgery, laparoscopic fundoplication has increased dramatically since its introduction in 1991 (1). Concerns have been raised whether this procedure has now been overdone as an "easy fix," often ignoring the complications it may pose. The annual number of antireflux operations has increased in the United States, especially in children younger than 2 years of age (2.3.5).

In May 2009, the New Technology Committee of the American Pediatric Surgery Association published a position paper on laparoscopic antireflux operations in infants and children for GERD (4). The Committee acknowledged that controversy exists among practitioners as to the efficacy of surgery compared with medical management.

In October 2009, the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition published joint recommendations on the clinical management of pediatric GER (5).

Since these publications, one of the most complex issues has been the necessity of fundoplication in young infants presenting with apparent life-threatening events (ALTEs). Because ALTE may be an indication for fundoplication in the American Pediatric Surgery Association position paper, many pediatric surgeons feel obligated to perform fundoplication on these infants. Given that the relation between ALTE and GER is not clear, pediatric gastroenterologists recommend a thorough evaluation to determine the cause of ALTE. Available evidence suggests that in the majority of infants with apnea or ALTEs, GER is not the cause (5).

Pediatric gastroenterologists and pediatric surgeons should work closely in difficult clinical scenarios to optimize outcomes for children. A well-designed randomized multicenter study should be performed on infants with ALTE and GER to help resolve the indication for fundoplication versus medical management.

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REFERENCES

- Lobe TE, Schrop KP, Lunsford K. Laparoscopic Nissen fundoplication childhood. J Pediatr Surg 1993;28:358–61.
- Gibbons TE, Stockwell JA, Kreh RP, et al. Population-based epidemiological survey of gastroesophageal reflux disease in hospitalized US children. Gastroenterology 2001;120:A419.
- Lasser MS, Liao JG, Burd RS. National trends in the use of antireflux procedures for children. *Pediatrics* 2006;118:1828–35.
- Kane TD, Brown MF, Chen MK. Position paper on laparoscopic antireflux operations in infants and children for gastroesophageal reflux disease. American Pediatric Surgery Association. J Pediatr Surg 2009; 44:1034–40.
- Vandenplas Y, Rudolph CD, Di Lorenzo C, et al. Pediatric gastroesophageal reflux clinical practice guidelines: joint recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN). J Pediatr Gastroenterol Nutr 2009;49:498–547.

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