

SUBSPECIALIST CONSULT

GERD in the School-Age Child

General pediatricians can take care of a great number of children with reflux disease. I recommend a step-up approach employing lifestyle modifications and/or medication prior to specialist referral in most cases. When symptoms become more troublesome or there is no response to therapeutic interventions, consultation with a pediatric gastroenterologist may be appropriate.

Begin with a thorough patient history, which is instrumental to distinguishing gastroesophageal reflux disease (GERD) from other conditions. Family medical and medication history also are important because of compelling evidence demonstrating a family link with GERD.

Advise school-age children with GERD to eat smaller meals throughout the day and not to eat too close to bedtime. Tomato-containing products, caffeine-containing products, citrus, and—believe it or not—chocolate are commonly implicated as evoking or exacerbating symptoms of GERD. Foods with high-fat content also are associated with the disorder, as they delay the ability of the stomach to empty quickly, thus potentially worsening GERD.

Sleep disturbances may be the sole symptom for a lot of older children with reflux. Microburps or microaspirations that occur when children are supine at night wake some; they do not wake others, so keep in mind that some children might be unaware of their GERD. A good question to ask is how many chil-

dren already self-manage their symptoms by elevating their upper torso at night without realizing why.

Early morning nausea also can occur after a night of continuous reflux. Therefore, the presentation of a child who says he or she routinely does not want to eat in the morning, particularly if he or she complains of nausea, raises clinical suspicion for GERD. Also, some children can report regurgitating and re-swallowing all day as they sit in class.

In addition to lifestyle changes, a trial of acid-suppressing medication, such as an H₂ blocker or a proton pump inhibitor, can be tried. Limit initial treatment to 6-8 weeks for most children. If a child reports respiratory symptoms associated with GERD, consider a longer course of acid suppression therapy. It is important to discuss the specific GERD-related symptoms you expect the medication to resolve prior to initiation of therapy.

A referral to a pediatric gastroenterologist is warranted after lifestyle modifications and pharmacotherapy fail, or if symptoms return after therapy is discontinued. Sometimes patients do not improve with these interventions or they get better but you cannot get patients off the medication without symptoms returning. Also, other warning signs or symptoms such as anemia or occult blood in the stool or vomit require a referral.

Frequently, children, particularly those of school age, with GERD complain of

a stomachache. However, GERD is more of a burning pain versus a cramping pain. Pain that is associated with GERD or due to another “organic” cause tends to be pain that localizes away from the belly button and is more epigastric, versus periumbilical pain, which tends to be more functional. In addition, abdominal pain that awakens children at night tends to be more organic in nature. Some children with GERD are misdiagnosed and actually have a functional GI disorder or vice versa. Definitions of pediatric functional GI disorders can aid in the differential diagnosis; these are outlined in Rome III criteria (www.romecriteria.org).

There is no diagnostic test that is 100% accurate for the diagnosis of GERD. Thus, it is important to avoid too much testing or inappropriate treatment. For example, pediatricians tend to do an upper gastrointestinal series using barium and x-ray fluoroscopy, which is not good for ruling GERD in or out, but can be beneficial in identifying upper GI anatomic abnormalities. Nuclear scintigraphy can be employed to assess gastric emptying and aspiration of reflux contents.

Pediatricians can order a pH probe to ascertain the degree of acid exposure to the esophagus, although some centers require a GI consultation first. Endoscopic studies require a referral to a specialist. Specialists also may perform a newer modality called multichannel intraluminal impedance, which, when combined with the pH probe, can measure both acid reflux and nonacid or weakly acid reflux.

In a survey of 6,000 American Academy of Pediatrics members, 82% of the

1,245 responding pediatricians and pediatric specialists said they treat GERD based on clinical suspicion (*J. Pediatr. Gastroenterol. Nutr.* 2007;45:56-64). Such empiric therapy is still appropriate in the pediatric patient. However, there is a need for future research on the optimal therapy type, dose, and duration in these patients with clinically suspected GERD.

To promote a more standardized approach to pediatric GERD, I participated on an international committee that released an evidence-based set of definitions for reflux and GERD in the pediatric population (*Am. J. Gastroenterol.* 2009;104:1278-95). Additional guidance on GERD is available from the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (www.naspgan.org) and the Children’s Digestive Health and Nutrition Foundation (www.cdhnf.org). The CDHNF Web site includes a summary of NASPGHAN Guidelines for Evaluation and Treatment of Gastroesophageal Reflux Disease in Infants and Children. ■

DR. GOLD is an attending pediatric gastroenterologist at Children’s Healthcare of Atlanta and a member of the Children’s Center for Digestive Healthcare. He is also a former professor of pediatrics and microbiology, and former director of the division of pediatric gastroenterology, hepatology, and nutrition, at Emory University in Atlanta. Dr. Gold previously was a consultant for AstraZeneca, maker of Losec (omeprazole) and Nexium (esomeprazole), and Takeda Pharmaceuticals, maker of Prevacid (lansoprazole). To respond to this column, e-mail Dr. Gold at pdnews@elsevier.com.



BY BENJAMIN D. GOLD, M.D.

Many Hospitalizations for Dehydration Are Preventable

BY JOYCE FRIEDEN

TAMPA — From 12% to 45% of hospital admissions of children for dehydration could be prevented, according to results from a study of 85 such admissions.

Dr. Vineeta Mittal and Dr. Glenn Flores of the University of Texas Southwestern Medical Center and Children’s Medical Center, Dallas, performed a cross-sectional survey of parents, primary care providers, and inpatient attending physicians involved in a series of cases of pediatric patients admitted for dehydration. The study included patients admitted to an urban hospital over a 20-month period.

Patients were excluded if they were direct admissions to the pediatric intensive care unit or if dehydration was not the primary admitting diagnosis. The study, part of a larger study of 560 chil-

dren admitted for avoidable hospitalization conditions, was presented in a poster at a pediatric hospital medicine meeting.

The researchers asked each patient’s parent or guardian the following questions:

- ▶ Could hospitalization have been prevented? If so, how?
- ▶ Did the parent speak to the primary care provider, or take the child to visit a primary care provider, prior to admission?
- ▶ Did the family have good access to care, or were there financial barriers or difficulties in obtaining medication?
- ▶ Was the parent satisfied with the child’s regular provider (if there was one)?

The investigators also asked the primary care physician and the inpatient attending physician for each patient if and how the hospitalization could have been avoided. The researchers found that, depending on who

did the assessment, 12%-45% of hospitalizations for dehydration could have been avoided. Many of the admissions could have been prevented if parents had had better information about



‘Pediatricians need to provide more in-depth education to parents about how to keep children hydrated.’

DR. MITTAL

their child’s condition and the proper use of oral rehydration solution therapy.

Overall, all three sources—parents, the primary care physician, and the inpatient attending physician—assessed a particular hospitalization as being avoidable 12% of the time, and any one of the three sources said it

was avoidable 45% of the time. When it was broken down by who did the assessment, parents said the hospitalization could have been avoided 25% of the time, compared with 33% of the time for primary care providers and 19% of the time for the inpatient attending physician.

In one case cited by the researchers, the parent said the hospitalization could have been avoided “if they had explained it to me better in the [primary care] clinic,” the primary care physician said it could have been avoided “with more appropriate care,” and the inpatient attending physician said it could not have been avoided because it was a “rapid onset, too severe.”

In general, “pediatricians need to provide more in-depth

education to parents about how to keep children hydrated,” Dr. Mittal said in an interview. “Even reinforcing that as little as 1 teaspoon [of fluid] every 10 minutes is okay may help reduce emergency department visits and hospitalizations.”

Also, having a short-stay unit at the hospital would help, she said. “A lot of these kids don’t need to be in the hospital and stay there for days.” Just getting them rehydrated and watching them for a few hours before sending them home would probably be enough in many cases.

Another big barrier to preventing a hospital admission was a lack of health insurance.

Dr. Mittal reported that she had no conflicts of interest. ■

To watch a video of Dr. Mittal, go to www.youtube.com/watch?v=fy3_ZE_Dvek&feature=channel_page.