

# Check 'Usual Dietary Suspects' in Persistent GERD

BY SHERRY BOSCHERT  
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STANFORD, CALIF. — Children or adults whose symptoms of gastroesophageal reflux disease continue despite treatment may have allergic eosinophilic esophagitis, John A. Kerner Jr., M.D., said at a conference on perinatal and pediatric nutrition.

An esophageal biopsy will show major eosinophilic infiltration of the mucosa and submucosa in a patient with allergic eosinophilic esophagitis. The proteins that are implicated in this disorder come from the "usual suspects" in the diet—cow's milk, wheat, soy, peanut, or egg, said Dr. Kerner, professor of pediatrics and director of nutrition at Stanford (Calif.) University Medical Center.

Treatment consists of avoiding the antigens, if they can be identified, switching infants to an elemental formula, and possibly using steroids. Often multiple antigens are involved, with poor correlation with skin tests for allergy, he added.

First identified in a landmark 1995 study

of 10 children, allergic eosinophilic esophagitis produces symptoms that look like chronic gastroesophageal reflux disease (GERD). The child may refuse food, fail to thrive, vomit, have abdominal pain, be irritable, and have difficulty sleeping. Symptoms return despite treatment with histamine<sub>2</sub>-receptor blockers or even fundoplication. Serum IgE levels are normal or slightly elevated, and peripheral eosinophils are uncommon in allergic eosinophilic esophagitis.

Allergic eosinophilic esophagitis can begin anytime from infancy to adolescence. "More and more of the adult literature is pointing out that patients have been missed with this disorder," Dr. Kerner said.

Older children and adults who have had allergic eosinophilic esophagitis for some time commonly turn up in emergency departments or clinics with esophageal stricture. Biopsies will show "sheets" of eosinophils in these patients, he added.

Seeing more than 20 eosinophils per high-power field in a biopsy is a "classic count" for diagnosing allergic eosinophilic

esophagitis, although there is some debate about the exact number needed for diagnosis, Dr. Kerner said at the meeting, jointly sponsored by Symposia Medicus and Stanford University.

Endoscopy will show little circular rings that can be "fairly dramatic" and white plaques composed of eosinophilic complexes.

Restricting consumption of cow's milk will resolve symptoms in approximately 80% of cases. In infants with allergic eosinophilic esophagitis, 80% will improve after switching to a hydrolyzed protein formula such as Alimentum or Nutramigen. Those who don't respond usually do well when switched to an L-amino acid formula. Breast-fed infants with eczema and allergic eosinophilic esophagitis usually need an L-amino acid formula, Dr. Kerner said.

An inhaled steroid will alleviate acute symptoms, but symptoms recur when the inhaled treatment is stopped. When prescribing steroids for this disorder, Dr. Kerner said that he prefers using both inhaled and topical forms. Oral steroids for a sys-

temic effect also are an option, he said.

The first published study of allergic eosinophilic esophagitis described 10 children who had been diagnosed with GERD and whose symptoms persisted despite separate treatments with five antireflux therapies, including Nissen fundoplication in six patients.

After 6 weeks on an L-amino acid-based formula (Neocate or Neocate One), eight patients had no symptoms, and symptoms improved in the other two patients. Esophageal biopsies before and after the 6 weeks of treatment showed that intraepithelial eosinophil counts decreased significantly, from a median of 41 per high-power field to less than 1 per high-power field (*Gastroenterology* 1995;109:1503-12).

Symptoms returned in all patients, however, after open food challenges. "This is a real disorder," Dr. Kerner said.

The study showed that chronic GI symptoms and histologic changes of the esophagus that were unresponsive to standard GERD treatments could be improved by using an elemental formula. "This was a breakthrough," he said. ■

## Use pH Monitoring, Barium Contrast To Diagnose Acid Reflux in Children

BY ROBERT FINN  
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BLAINE, WASH. — Several tests are available to help in the diagnosis of gastroesophageal reflux in infants and children, Dennis L. Christie, M.D., said at a conference sponsored by the North Pacific Pediatric Society.

These include extended barium swallows, scintiscan, ultrasound, extended pH monitoring, and endoscopy, said Dr. Christie of the University of Washington, Seattle. ▶ A barium contrast study, which may be accompanied by an upper GI study or a small bowel study, can be used to exclude anatomic abnormalities. This test can detect pyloric stenosis and other upper GI abnormalities, malrotation, hiatal hernia, vascular ring, and stricture.

Swallowing studies can be useful in evaluating nasopharyngeal reflux, aspiration, and esophageal peristalsis. But if you want a swallowing study, you'll have to be explicit, since radiologists no longer do this routinely.

▶ The technetium-99 scintiscan is not especially sensitive, but it can be useful in evaluating nonacid reflux, gastric emptying, and aspiration.

▶ Ultrasound is not used very commonly, but it can be useful in detecting pyloric stenosis.

▶ Extended pH monitoring is the preferred method for diagnosing gastroesophageal reflux. Typically, the pH probe is inserted intranasally and positioned just above

the gastroesophageal sphincter. To determine the proximal extent of the reflux, some probes include two measuring devices, separated by 15-20 cm, allowing one to be positioned distally in the esophagus and the other proximally. Software converts the raw data to useful measures, including the percentage of the total time in which the pH is less than 4.0 (more than 5%-10% is abnormal), the total number of episodes, and the total number of episodes longer than 5 minutes.

Children with respiratory disease, for example, will not have esophagitis on biopsy but they do show frequent episodes of reflux—up to 100 episodes in 24 hours—that are very short lived. Children with tracheoesophageal fistula may have fewer episodes, but their episodes last much longer.

▶ Endoscopy is indicated to identify esophagitis and to establish a GER diagnosis in a patient with other negative studies but persistent symptoms. The esophagitis can be graded to plan adequate management, and endoscopy can also evaluate and exclude other upper GI pathology.

On biopsy, esophagitis is judged on the number of eosinophils and neutrophils present, the papillary

height, and the basal cell thickness. The presence of any inflammatory cells indicates esophagitis, as does a papillary height greater than 53% and a basal cell thickness of greater than 25%.

Endoscopy also is useful for diagnosing Barrett's esophagus, a precancerous condition that is rare, but not unheard of, in children, Dr. Christie said.

He described the case of a 5-year-old child with recurrent wheezing and frequent colds. The child had been diagnosed with reflux at 6 months of age, and with asthma more recently. He was brought to the emergency department after a bout of coffee-ground emesis.

A chest x-ray was normal, but given the child's history Dr. Christie suspected reflux. Dual-probe extended pH monitoring showed abnormal acid levels in the distal esophagus 8.9% of the time, with 396 episodes. The proximal esophagus showed abnormal acid levels 4.6% of the time with 66 episodes.

On endoscopy, the child was seen to have a wide-open gastroesophageal junction, severe mucosal erosion, and inflammation. Dr. Christie said that in such a child corrective surgery would likely be needed sooner or later. ■

**Some diagnostic pH probes include two measuring devices, located 15-20 cm apart, so one can be positioned distally in the esophagus and the other proximally.**

## Few GERD Patients Find Full Relief From Symptoms

BY TIMOTHY F. KIRN  
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CHICAGO — Individuals with gastroesophageal reflux fare better when they see a doctor than when they treat themselves with over-the-counter medications, but even for the majority of those patients, symptoms are not totally resolved, Roger Jones, M.D., said at the annual Digestive Disease Week.

In a multinational survey of 1,908 individuals with gastroesophageal reflux disease (GERD), 81% of those who had never seen a doctor for the condition but who took over-the-counter medications continued to have unresolved symptoms.

That compared with 68% of patients with a formal diagnosis taking a prescription medicine, Dr. Jones, a professor of general practice at the Guy's, King's, and St. Thomas' School of Medicine, London, said in a poster presentation.

The researchers surveyed persons who had previously been identified by a larger telephone survey conducted in the United States and three European countries. Half of the people in the group had been given a formal diagnosis of GERD, and the other half were individuals who reported two or more episodes of heartburn in the week prior

to being contacted, but who had never consulted a physician about their symptoms.

Of those without a diagnosis, 78% (721) reported taking over-the-counter medications. About two-thirds (65%) of those who had taken over-the-counter medications said their symptoms were improved since first taking medication. Still, 81% had residual symptoms.

Of those with a diagnosis, 74% (727 patients) had a prescription, and 80% of those had some improvement since first taking their prescribed medication. Eighty-seven percent of 537 patients receiving a proton pump inhibitor either alone or in combination reported improvement. Ninety-one percent of those taking only a proton pump inhibitor reported some improvement. Still, 68% of those taking a prescription drug continued to have residual symptoms.

The investigators had no trouble finding individuals with heartburn for their survey, Dr. Jones noted. Results of previous surveys have suggested that as many as one-third of adults experience reflux symptoms.

Previous studies have noted that the most common reason proton pump inhibitors do not work as well as they might is a lack of full compliance with a daily regimen. ■