

ADVANCES IN GERD

Current Developments in the Management of Acid-Related GI Disorders

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Laryngopharyngeal Reflux: The ENT Perspective

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G&H From the perspective of an ear, nose, and throat physician, what is the current understanding of the pathophysiology of laryngopharyngeal reflux?

PB Laryngopharyngeal reflux (LPR) is defined as chronic symptoms or mucosal changes caused by the regurgitation of gastric contents into the laryngopharynx. The esophagus possesses a three-tiered defense system and is well equipped to handle intermittent exposure to gastric contents. The glottis, however, does not possess these defense mechanisms and is significantly more susceptible to injury by acid and activated pepsin. As few as three pharyngeal reflux events can cause significant laryngeal injury.

G&H How is LPR usually diagnosed in patients?

PB These patients usually present to ear, nose, and throat (ENT) physicians with symptoms such as globus pharyngeus, cough, disproportionate throat mucus, excessive throat clearing, the sensation of postnasal drip, sore throat, intermittent dysphonia, and dysphagia. Diagnostic testing is difficult and usually based upon a combination of the presence of patient symptoms, laryngeal findings, ambulatory pH testing, impedance testing, empiric medical trial with twice-daily proton pump inhibitors (PPIs), esophagoscopy and, occasionally, fluoroscopy. The role of ambulatory pH and impedance testing in the diagnosis of LPR is controversial. A meta-analysis of pharyngeal reflux events suggests that events with a pH of less than 4 in the pharynx are more common in patients with a clinical diagnosis of LPR. The conclusion of this analysis, however, has been questioned, and the role of pH testing in

LPR diagnosis remains divisive. An empiric trial of PPIs is attractive as an alternative diagnostic tool for several reasons. It does not require any sophisticated equipment, is relatively safe and well tolerated, has the added plus of providing therapeutic benefit, and is simple to perform. There is a very high placebo response rate for these symptoms, however, and the specificity of a PPI trial is limited. A person who improves with an empiric PPI trial does not necessarily have reflux disease. Esophagoscopy is beneficial to rule out metaplasia and dysplasia, as well as evaluate for alternative pathology such as allergic (eosinophilic) or infectious (candida) esophagitis that may be contributing to chronic patient symptoms. Fluoroscopy may be indicated in patients with recalcitrant symptoms to rule out cricopharyngeal dysfunction, Zenker diverticulum, esophageal motility, and esophagopharyngeal reflux.

In addition, the Reflux Symptom Index (RSI) is a validated self-administered disease-specific outcome instrument for LPR. It has been useful in quantifying the severity of this symptom complex. The reflux finding score (RFS) is a validated instrument that has been utilized to quantify the degree of laryngeal inflammation on laryngoscopy. Patients with an abnormal RSI and abnormal RFS have been reported to have significant improvement with twice-daily PPIs over placebo at 3 months. It is important to realize, however, that patient symptoms and laryngeal findings are nonspecific and may be caused by allergy, infection, tobacco, and other environmental pollutants, counterproductive behavior such as habitual throat clearing, advancing age, cricopharyngeal dysfunction, and neoplasm.

G&H Are there any other potential causes that should be excluded before making a diagnosis of reflux?

PB As discussed above, there are many potential causes for ENT symptoms other than reflux. Second-hand tobacco smoke, environmental ozone, and house dust mites all may cause laryngeal inflammation. Age-related vocal fold atrophy is a common cause of dysphonia and may be misdiagnosed as LPR. Age-related pharyngeal weakness and various common medications might cause alterations in mucus production and saliva transit through the upper esophageal sphincter. This may present as the

sensation of excessive throat mucus, postnasal drip, or habitual throat clearing. Other causes of this symptom complex include Zenker diverticulum, cricopharyngeal dysfunction, and progressive neurologic illness such as Parkinson disease. The three most common alternative causes of these symptoms include allergy, irritants/pollutants, and age-related degeneration.

G&H Could you discuss the treatment options for patients with LPR?

PB Our treatment approach involves performing laryngoscopy and esophagoscopy at the initial clinic visit. Our experience with unsedated transnasal esophagoscopy has been well documented. The procedure is safe, as efficacious as sedated esophagoscopy, and well tolerated by 97% of patients. If any significant laryngeal or esophageal pathology is identified, it is treated appropriately. If the endoscopy reveals no significant pathology but symptoms and laryngoscopy suggest reflux as a contributing factor (RSI >12, RFS >7), we offer a step-up treatment algorithm. The patient is offered simple reassurance and is informed that the symptoms represent a quality-of-life issue. If reassurance is unacceptable to the patient, first-line treatment options include behavioral modifications for reflux (ie, diet; exercise; weight loss; small, frequent meals instead of large meals; and avoidance of caffeine, alcohol, tobacco, and chocolate) and antacids. Patients with habitual throat clearing or symptoms suggestive of vocal cord dysfunction or a hypersensitive larynx are seen by our speech pathology team for therapy. Second-line treatment includes postcibal liquid alginate and over-the-counter H₂ receptor antagonists such as ranitidine (Zantac, GlaxoSmithKline) or famotidine (Pepcid, Merck). Then, progressing up the treatment ladder as needed, PPIs may be administered. Patients usually are started on once-daily over-the-counter medications and advanced to twice-daily dosing as needed. With the exception of chronic cough, patients with isolated symptoms of LPR (throat clearing, globus, dysphonia, postnasal drip) are not referred for fundoplication. Patients with recalcitrant symptoms that significantly affect quality of life are offered ambulatory impedance/pH testing. If nonacid reflux is identified, the patient is offered baclofen. If the patient is a nocturnal refluxer, an H₂ receptor antagonist is added in the evening. Treatment is continued for 3 months. Once the RSI has normalized (<12), an attempt is made to taper the patient off medication over a period of 8 weeks.

G&H Could you further discuss the placebo effect that may occur in these patients?

PB The placebo response to symptoms of LPR may be as high as 50%. It is for this reason that I discourage an

empiric PPI trial as initial treatment. We cannot give our patients placebos, however, and it is prudent to start with reassurance and behavioral modifications as first-line therapy. It is important to be cautious when using an empiric trial of PPIs. If an individual improves with PPIs, it is often assumed by the clinician and patient that the person does, in fact, have reflux disease. This diagnosis may last a lifetime, when, in fact, the patient may have gotten better from a sugar pill. I do not believe that physicians should avoid an empiric PPI trial altogether. However, clinicians must understand the limitations of this diagnostic tool before employing its use. All patients deserve a chance at avoiding or being weaned off PPIs.

G&H In patients who have responded to PPIs, what should physicians keep in mind when weaning them off therapy?

PB When coming off these medications, it is important to be wary of rebound acid hypersecretion, which may last up to 2 months. Healthy volunteers given a PPI for 8 weeks have developed reflux symptoms upon withdrawal. Physicians must be aware of rebound acid hypersecretion and should proceed carefully when weaning patients off their medications. Although no good data exist on the requirements of PPI withdrawal, we recommend a gradual taper over 4 weeks for those on a once-daily dose and over 8 weeks for those on a twice-daily dosing regimen.

G&H If PPI therapy is not successful in patients with LPR, what is the next step?

PB If patients do not improve with PPI therapy, an alternative diagnosis should be considered. As mentioned above, there are many different causes for throat clearing, hoarseness, globus or a foreign body sensation in the throat, and postnasal drip. It is important to consider alternative diagnoses other than reflux. If the initial diagnosis was unremarkable and the symptoms significantly affect quality of life, ambulatory impedance/pH testing and fluoroscopy is performed. We perform a multidisciplinary oropharyngeal esophagram with an otolaryngologist and speech language pathologist in attendance. The patient is advised to bring in certain foods or perform various maneuvers known to exacerbate their symptoms. If our step-up approach has been unsuccessful and the impedance/pH testing and fluoroscopy are normal, we may consider treating the end organ responsible for these symptoms with an intralaryngeal steroid injection. The success of intralaryngeal steroids in the improvement of these symptoms is currently being evaluated in a prospective trial.

G&H Does surgical therapy play a role in these patients?

PB Fundoplication for purely extraesophageal symptoms, in the absence of esophageal symptoms (ie, heartburn or regurgitation), is ill-advised, in my opinion, with the exception of the symptom of chronic cough. I do not recommend fundoplication for patients presenting with hoarseness, throat clearing, and globus, in the absence of other symptoms. However, patients with cough, particularly cough patients with hiatal hernia, who have a strong symptom association on ambulatory pH/impedance testing, do the best with fundoplication, in my opinion.

G&H When treating these patients, at what point, if any, is consultation with gastroenterologists recommended?

PB We recommend a team approach to treating these patients. The goal is to provide the best treatment available for our patients in a cost-effective manner without duplication of services. Early endoscopy can identify pathology requiring gastroenterology referral, and negative endoscopy findings can avoid needless consultations.

G&H Is esophagopharyngeal reflux an issue in these patients?

PB The issue of esophageal and gastric motility is underappreciated. In our tertiary referral population, esophageal dysmotility and gastroparesis are extremely common. Esophageal contents that have not entered the stomach can be regurgitated into the pharynx and cause throat clearing, cough, excessive throat mucus, and the sensation of postnasal drip. Ambulatory pH and impedance testing will not identify esophagopharyngeal reflux (EPR), and these patients do not improve with PPIs. Patients with EPR identified on fluoroscopy are best treated with a behavioral modification protocol and postcibal alginates.

G&H What aspects of this topic require further investigation?

PB We have been investigating the effects of allergens and the environment (ie, pollutants and other irritants such as diesel exhaust, ground level ozone, industrial waste, and other sources of pollution) to examine their role in causing ENT symptoms. The role that the transition zone of the esophagus (esophageal dead zone) plays in contributing to EPR and the development of this symptom complex warrants further investigation. The development of safe and effective esophageal prokinetics is also warranted. In addition, some of these symptoms (throat clearing, in particular) have a large habitual component, which needs to be addressed; otherwise, these patients will never improve.

Suggested Reading

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