

# ADVANCES IN GERD

Current Developments in the Management of Acid-Related GI Disorders

Section Editor: Joel E. Richter, MD

## Diagnosis and Treatment of Achalasia



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### G&H How is achalasia usually diagnosed?

**PK** The diagnosis is ultimately established by an esophageal manometry study that demonstrates the absence of peristalsis and a high integrated relaxation pressure if high-resolution manometry is used or a high residual pressure if traditional solid state manometry is performed. A barium swallow is almost always performed to look for esophageal dilatation, delayed emptying, and the bird beak pattern typically seen in achalasia. Endoscopy can be used to aid in the diagnosis, although endoscopic findings are not specific. Although these 3 tools may be used in conjunction, either standard or high-resolution manometry is the so-called gold standard. The most recent American College of Gastroenterology (ACG) achalasia guidelines require manometry for confirmation of the diagnosis.

### G&H Have there been any recent advances in the diagnosis of this condition?

**PK** The availability of high-resolution manometry has expanded our ability to categorize achalasia into subtypes, and it appears that there may be manometric patterns suggestive of early or evolving achalasia. The high-resolution catheter has allowed us to measure integrated relaxation pressure, as opposed to simply measuring residual pressure. Many in the field feel that this gives a more accurate reflection of sphincter opening.

High-resolution manometry has also allowed us to categorize achalasia into 3 subtypes. This classification provides information that helps us to more carefully select treatment and understand prognosis. We also can perform impedance testing to assess bolus movement, in addition to traditional pressure monitoring via manometry. Impedance

testing is performed with the same catheter as manometry and can be used to help in difficult manometric cases. High-resolution manometry is the test most commonly being performed currently to diagnose achalasia, although traditional manometry is still acceptable.

### G&H Are there any safety issues or risks associated with high-resolution manometry?

**PK** There are no real safety issues. High-resolution manometry has made diagnosis easier to establish from a technical standpoint. There are theoretical risks in passing a catheter through the nose, such as a nosebleed or a sore throat. In addition, because of gagging, there is a small risk of inducing vomiting if the esophagus is full of fluid. High-resolution manometry can be completed successfully in most patients. The only time that high-resolution manometry may not be fully successful is when it is not possible to pass the catheter into the stomach to obtain an accurate lower esophageal sphincter measurement.

### G&H Have there been any recent studies comparing pneumatic dilatation and laparoscopic Heller myotomy for achalasia?

**PK** The most recent comparison study that I am aware of was published in *The New England Journal of Medicine* in 2011. This study reported 2-year comparison data and essentially concluded that the 2 treatments are not statistically different. Patients with type 2 achalasia were more likely to respond to both treatments but had a better outcome with pneumatic dilatation. Type 1 achalasia patients also did extremely well, although not quite as well as type 2 patients. Patients with type 3 achalasia had

a better response to laparoscopic Heller myotomy than to pneumatic dilatation. The study also affirmed the previously held belief that pneumatic dilatation seems to be less effective in men under the age of 45 years and in patients who have chest pain as a predominant symptom.

The literature has shown that both procedures are safe. There are some minor operative complications with Heller myotomy, as with any laparoscopic operation, but the risk of intraoperative perforation is extremely low, and perforations are almost always recognized. There is essentially no mortality in well-selected patients. Pneumatic dilatation is almost always performed as an outpatient procedure, with the major risk being perforation. The reported risk rate in the most recent literature is less than 2% and probably closer to 1% in expert hands.

There has been some debate on the long-term efficacy of pneumatic dilatation, although my opinion is that when the procedure is effective, it is long-lasting. The longer-term risk from Heller myotomy seems to be related to the development of gastroesophageal reflux disease, whereas with pneumatic dilatation, dysphagia is more likely to be a recurrent symptom.

#### **G&H** How is treatment choice determined?

**PK** It is difficult, from a scientific standpoint, to recommend one treatment over the other, as the treatment approach should be individualized. In general, pneumatic dilatation is more successful in persons over the age of 45 years. In theory, a pneumatic dilatation should not be performed in someone who is not a surgical candidate because of the risk of perforation, which may require an urgent operation to close. I believe that there is a feeling in the community that surgery is, overall, a better treatment, despite the results from the randomized controlled trial described earlier. However, I have had excellent success with pneumatic dilatation with no perforations in the past 15 years, and believe that it is an effective and strong first-line treatment to consider in appropriately selected patients. This is reflected in the latest guidelines on achalasia from the ACG, which recommend either treatment as first-line therapy. In my practice, I consider Heller myotomy for younger males and those with clinically important chest pain. I believe that peroral endoscopic myotomy (POEM) should be strongly considered for type 3 patients, although the literature has not specifically addressed this. I discuss the option of POEM with my patients but explain that we have more to learn and refer interested patients to centers that are systematically collecting data on the procedure.

#### **G&H** What data are available to date on POEM?

**PK** POEM is a new and exciting procedure that has been studied in multiple modestly sized series of either prospec-

tive or retrospective cohorts (ie, uncontrolled studies on early outcomes for the treatment of achalasia from 1 or 2 operators in individual centers). I am not aware of extensive literature that reports follow-up data beyond 6 months to 2 years. Thus far, the data are favorable with regard to improvement in dysphagia, dysphagia scores, esophageal emptying, and lower esophageal sphincter pressure.

However, studies have suggested that more than 1 in 3 patients will develop reflux after undergoing POEM. Since no antireflux procedure accompanies the operation, this is not surprising. It is not known how clinically important this reflux is and how to best treat it.

#### **G&H** How safe is POEM?

**PK** The early data thus far show that it is extremely safe. It is associated with short hospitalizations and operative times similar to, if not shorter than, those associated with Heller myotomy. The risks associated with POEM are pneumothorax, air leakage into the chest, and perforation, which the literature suggests not only is minimal, but also can be closed with clips or other endoscopic techniques during the procedure. These findings, it should be pointed out, are based on the performance of POEM in expert hands.

#### **G&H** What is needed before this procedure can become more widely adopted?

**PK** There are 2 important issues that need to be resolved: standardization and clinical competence. The technique varies according to the operator. For example, how long should the myotomy be? Some standardization is needed. Some suggest that the learning curve for POEM is as high as 20 procedures, which means that physicians considering adopting POEM as part of their practice will need extensive proctoring. My clinical bias is that we need direct comparison of POEM vs other treatments with regard to efficacy and complications before the procedure becomes fully accepted as a first-line treatment option. I look forward to longer-term data on reflux as well as relief of dysphagia. What are the options for patients who fail? I believe that currently POEM should be performed in centers of excellence where patients can be given an option of multiple treatments or in specialty centers where doctors are prospectively collecting data in a systematic way.

#### **G&H** Is there a role for the use of onabotulinumtoxinA for achalasia?

**PK** OnabotulinumtoxinA (Botox, Allergan) is a popular intervention among community gastroenterologists. The technique is viewed as simple and straightforward. It is often administered in the community as an initial

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treatment with the idea to consider surgery or pneumatic dilatation if the initial therapy fails. However, this therapy is rarely successful in the long term. If the first injection is not successful, the second or third injection is rarely successful. It also tends to wear off, with few people experiencing more than a year or two of improvement. Many people who initially receive this therapy are candidates for more definitive treatment, creating an unnecessary delay.

In addition, although onabotulinumtoxinA is safe, repeated injections cause inflammation and sometimes fibrosis in the sphincter region. Although there is no definitive evidence that the injections negatively affect the outcomes of the more definitive treatments, it is my belief that pneumatic dilatation is not as effective in people who have had multiple injections and that surgery may be more difficult or at least more time-consuming.

## G&H Are there any other new treatment options?

**PK** There is some evidence in the laboratory that phosphodiesterase type 5 inhibitors, such as sildenafil, can decrease esophageal contraction amplitude and lower esophageal sphincter pressure and, thus, may be of use in patients with achalasia. However, the experience with these drugs is anecdotal; there have been no clinical trials to date.

*Dr Katz has no relevant conflicts of interest to disclose.*

## Suggested Reading

Boeckxstaens GE, Annesse V, des Varannes SB, et al. Pneumatic dilation versus laparoscopic Heller's myotomy for idiopathic achalasia. *N Engl J Med.* 2011;364(19):1807-1816.

Vaezi MF, Pandolfino JE, Vela MF. ACG clinical guideline: diagnosis and management of achalasia. *Am J Gastroenterol.* 2013;108(8):1238-1249.