Effective Health Care Program

Digestive System Conditions
Acid Reflux

Managing Chronic Gastroesophageal Reflux Disease

Focus of Research for Clinicians

As an update to a 2005 report, a systematic review of 166 clinical studies published between January 2004 and August 2010 examined the comparative effectiveness, benefits, and adverse effects of treatments for gastroesophageal reflux disease (GERD) and investigated whether there are factors that influence or predict treatment effectiveness. The review did not evaluate diagnostic approaches, treatment options for patients with refractory symptoms, or the effect of lifestyle modifications on GERD symptoms. The full report, listing all studies, is available at www.effectivehealthcare.ahrq.gov/gerdupdate.cfm. This summary, based on the full report of research evidence, is provided to inform discussions of options with patients and to assist in decisionmaking along with consideration of a patient's values and preferences. However, reviews of evidence should not be construed to represent clinical recommendations or guidelines.

Background

Chronic GERD is a common health condition resulting from frequent exposure of the esophagus to gastric contents, such as acid and pepsin, that may be harmful to the esophageal epithelium. The physiological barrier to reflux is the lower esophageal sphincter (LES), which is anchored by the crural diaphragm. The function of the antireflux barrier may be compromised by a hiatal hernia or a hypotensive LES, alone or in combination.

The goals of therapy for chronic GERD include improvement in symptoms and quality of life, healing of erosive esophagitis, and prevention of complications such as esophageal stricture. However, considerable uncertainty remains about how these objectives should be achieved. If left untreated, chronic GERD can cause esophagitis, esophageal ulcers, bleeding, scarring of the esophagus, or Barrett's esophagus.

Medical treatment of GERD consists of pharmacological suppression of gastric acid, which is generally the first line of treatment. Depending on the severity of symptoms and clinical response, intermittent (on-demand), periodic, or continuous use of prescription or over-the-counter medications— especially histamine type 2 receptor antagonists (H2RAs) and proton pump inhibitors (PPIs)— have been used. Standard treatment may involve an 8-week trial of a PPI, along with lifestyle modification.

Surgical management of GERD, which consists of repairing and/or strengthening the physiological antireflux barrier, represents another treatment option. Endoscopic treatments have recently become available and are currently being studied.

Conclusion

PPIs are superior to H2RAs for treating chronic GERD. Comparisons among different PPIs or among different dosages and dosing regimens of PPIs show few consistent differences. Limited studies suggest that continuous daily dosing provides improved symptom control and quality of life at 6 months when compared to on-demand dosing. Through up to 3 years of followup, surgery appears to be as effective as medication, but serious adverse effects may be more common with surgical treatments. Evidence to evaluate endoscopic treatments is lacking.

Clinical Bottom Line

Treatment With Medication

Benefits

- PPIs were superior to H2RAs for esophagitis healing, patient satisfaction and compliance, and symptom remission. ●●○
- All of the commercially available PPIs appeared to be similarly effective for relieving symptoms and healing esophagitis for up to 1 year, although continuous therapy with a PPI appeared to be more effective than on-demand therapy for symptom control. ●●○
- Obesity, baseline symptoms, and severe baseline esophagitis were significantly associated with worse outcomes. Older age was associated with improved symptom control at 6 months. ●●○
- PPIs demonstrated no difference from placebo in resolving hoarseness but did demonstrate some improvement inconsistently in resolving cough. ●○○
- Findings concerning the effectiveness of GERD treatment on asthma symptoms were inconsistent. ○○○

Adverse Effects

- Potential adverse effects from PPI treatment included diarrhea, nausea or vomiting, abdominal pain, dyspepsia, headache, intestinal infection, pneumonia, and increased risk of bone fracture. ●○○

Strength of Evidence Scale

High:	●●●	There are consistent results from good-quality studies. Further research is very unlikely to change the conclusions.
Moderate:	●●○	Findings are supported, but further research could change the conclusions.
Low:	●○○	There are very few studies, or existing studies are flawed.
Insufficient:	○○○	Research is either unavailable or does not permit estimation of a treatment effect.

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Surgical Treatments

Benefits

- There was no significant difference in effectiveness between laparoscopic total and partial fundoplication, between laparoscopic fundoplication with and without division of short gastric vessels, or between open total and partial fundoplication. ●●○
- Older age, morbid obesity, female sex, presence of baseline symptoms or esophagitis, and hiatal hernia more than 3 centimeters at baseline were inconsistently associated with worse surgical outcomes. ●○○
- Evidence was inconclusive regarding the effectiveness of surgical treatment on extraesophageal manifestations of GERD.* ○○○

Adverse Effects

- Serious adverse effects included bloating and dysphagia. Fundoplication was also associated with procedural complications such as postoperative infection and incisional hernia. ●○○

Endoscopic Treatments

Benefits

- Evidence regarding the effectiveness of the endoscopic treatment EndoCinch™ was mixed regarding improvement in symptoms, quality of life, and healing of esophagitis (●○○), and there was insufficient evidence to evaluate other endoscopic procedures (e.g., Stretta® and EsophyX™). ○○○
- With regard to how patient characteristics influenced treatment outcomes, lesser degrees of esophagitis were associated with a reduction in the need for PPIs after treatment. Sex did not appear to influence outcomes. ●○○

Adverse Effects

- Common adverse effects from endoscopic suturing included chest or abdominal pain, bleeding, dysphagia, and bloating. ●○○

Medical-Surgical-Endoscopic Treatment Comparisons

- Fundoplication is as effective as continued medical treatment in controlling GERD-related symptoms. In some studies, fundoplication was superior to medication. ●●○
  - Out of 7 evaluated studies, 5 included only patients whose symptoms were already well controlled by medication.
- Serious adverse effects could be more common for surgery than for medical treatment. ●○○
- Evidence was insufficient to determine whether prevention of long-term complications (such as Barrett's esophagus and esophageal adenocarcinoma) is equivalent between medical and surgical treatments. ○○○
- Evidence was insufficient to compare endoscopic treatments to medication or surgery. ○○○

*Extraesophageal manifestations of GERD include asthma, cough, and laryngeal symptoms.

H2RA = histamine type 2 receptor antagonists; PPI = proton pump inhibitors

Gaps in Knowledge

- Due to a paucity of studies, the long-term comparative benefits and adverse effects of laparoscopic fundoplication versus medical treatments cannot be determined. The potential for lifelong PPI or H2RA treatment necessitates the study of long-term safety concerns.
- Most studies do not evaluate options for patients whose GERD does not respond well to medications.
- Evidence is lacking to determine the role, safety, and value of endoscopic procedures.
- Evidence is sparse regarding the treatment of extraesophageal manifestations of GERD.

Additional Issues

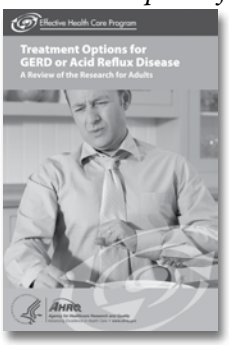
- An October 2010 reminder from the U.S. Food and Drug Administration (FDA) warns that the concomitant use of clopidogrel and the PPI omeprazole can result in significant reductions in clopidogrel's antiplatelet activity.

What To Discuss With Your Patients

- The difference between heartburn and chronic GERD.
- The potential risks for complications from untreated GERD.
- The need for consistent use of medications if prescribed.
- The availability of GERD medications without prescription.
- The FDA warning about clopidogrel and omeprazole.
- The advantages and disadvantages of medical versus surgical treatment.

Resource for Patients

Treatment Options for GERD or Acid Reflux Disease, A Review of the Research for Adults is a free companion to this clinician research summary. It provides:



- A description of GERD, its symptoms, and potential outcomes if untreated.
- Descriptions of the types of treatments, how they work, and potential side effects.
- Questions to guide a discussion about treatment options.

Ordering Information

For electronic copies of *Treatment Options for GERD or Acid Reflux Disease, A Review of the Research for Adults* (AHRQ Pub. No. 11-EHC049-A), this clinician research summary, and the full systematic review, visit www.effectivehealthcare.ahrq.gov/gerdupdate.cfm. To order free print copies of the research summaries for patients or clinicians, call the AHRQ Publications Clearinghouse at 800-358-9295.

Source

The information in this summary is based on *Management Strategies for Adults With Gastroesophageal Reflux Disease: An Update,* Comparative Effectiveness Review No. 29, prepared by the Tufts Medical Center Evidence-based Practice Center under Contract No. HHSA-290-2007-10055-I for the Agency for Healthcare Research and Quality, September 2011. Available at www.effectivehealthcare.ahrq.gov/gerdupdate.cfm. This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX.

AHRQ Pub. No. 11-EHC-049-3
September 2011