Gastroesophageal Reflux Disease in Older Adults: an Overview

Description/Etiology
Gastroesophageal reflux disease (GERD) is a motility disorder in which abnormal reflux of gastric contents into the esophagus causes mucosal damage, heartburn, and other clinical manifestations. The pathogenesis of GERD is multifactorial; factors that lead to GERD include abnormal lower esophageal sphincter (LES) pressure, altered esophageal mucosal resistance to gastric secretions, delayed esophageal clearance, and delayed gastric emptying.

Older adults with GERD tend to have different signs and symptoms and are more likely to develop GERD-related complications than are younger patients. Older patients are less likely to experience the classic symptoms of GERD (e.g., heartburn, regurgitation) and are more likely to have atypical symptoms that include dysphagia, vomiting, chest pain, prolonged laryngitis, and/or chronic cough. Older adults with GERD are at high risk for complications, including hemorrhagic esophagitis, peptic strictures, and Barrett’s esophagus (for more information, see Quick Lesson About … Barrett’s Esophagus).

GERD can be diagnosed based on symptoms alone or by performing diagnostic tests such as upper gastrointestinal (GI) endoscopy (e.g., esophagogastroduodenoscopy) with biopsy, measuring and monitoring esophageal pH, upper GI series with barium swallow, and acid perfusion (Bernstein) test.

The goals of treatment in older adults with GERD are the same as in younger patients with GERD, and include symptom resolution, healing of esophagitis, management of complications, and maintenance of remission. First-line therapy involves educating regarding the importance of making certain lifestyle changes (e.g., weight loss, dietary alterations); most patients require pharmacotherapy. An 8-week treatment course of a proton pump inhibitor (PPI) is recommended as first-line pharmacotherapy for GERD to heal erosive esophagitis and provide symptomatic relief. Histamine-2 (H2)-receptor antagonists, prokinetic agents, and/or antacids can also be prescribed. In severe cases, surgery (e.g., laparoscopic Nissen fundoplication) can be needed.

Facts and Figures
GERD is usually diagnosed in persons who are over 40 years of age and is common in older adults. GERD affects 14–20% of adults in the United States. Epidemiological data regarding GERD in older adults are conflicting. There is some evidence that the prevalence of GERD is higher in older than in younger adults, but it is unclear whether the incidence of GERD increases with age or if reports of higher prevalence of GERD in older patients are explained by a steady accumulation of cases over time. It is also possible that GERD is underdiagnosed in older adults, for reasons including age-related decreases in nociception and visceral sensation.

Risk Factors
The effect of age as a risk factor for GERD is unclear, but certain risk factors for GERD are more common in older adults. Older adults tend to take more medications than younger adults; medications that can contribute to the development of GERD include calcium channel blockers, beta blockers, anticholinergics, benzodiazepines, theophylline, nitrates, barbiturates, narcotics, NSAIDs, bisphosphonates, and potassium supplements. Older adults...
are more likely to have hiatal hernia and/or disease conditions (e.g., diabetes mellitus, Parkinson disease, stroke, or dementia) that can affect esophageal and GI motility and/or tone.

**Signs and Symptoms/Clinical Presentation**
Older adults with GERD are less likely to have classic symptoms of GERD and are more likely to experience dysphagia, vomiting, chest pain, prolonged laryngitis, chronic cough, hoarseness, postprandial fullness, and belching.

**Assessment**

› **Patient History**
  - Assess risk factors, including medical history and medication use

› **Diagnostic Tests/Studies**
  - Upper GI endoscopy (e.g., esophagogastroduodenoscopy) with biopsy is used to identify complications of GERD, including esophagitis, strictures, and Barrett’s esophagus
  - Esophageal pH monitoring will assess for the presence of reflux
  - Upper GI series or barium swallow will evaluate for anatomic abnormalities, including stricture and hiatal hernia
  - Bronchoscopy is performed if reflux into lungs is suspected
  - Esophageal manometry is performed preoperatively in patients who are scheduled to undergo surgical treatment for GERD
  - Radionuclide scintigraphy will measure gastric emptying

**Treatment Goals**

› **Promote Symptom Resolution and Reduce Risk for Complications**
  - Monitor vital signs, assess all physiologic systems (especially GI system), and review results of laboratory/other diagnostic studies; immediately report abnormalities and administer prescribed treatment
  - Administer prescribed medications, which can include
    - antacids to neutralize gastric acid
    - PPIs (e.g., omeprazole, lansoprazole) and H2 blockers (e.g., ranITIidine, cimetidine, famotidine) to inhibit acid secretion
    - prokinetic agents (e.g., metoclopramide) to improve esophagogastric motility
    - H2-receptor antagonists as maintenance therapy for patients without erosive disease
  - Monitor treatment efficacy and for adverse effects, including
    - mental status changes, which have been reported in older adults receiving cimetidine and ranitidine, particularly in older adults who have renal or hepatic dysfunction
    - muscle tremors, spasm, agitation, insomnia, drowsiness, confusion, and tardive dyskinesia in patients receiving long-term metoclopramide
  - Assess fall risk and follow facility protocols to maintain patient safety (e.g., airway, circulation, prevention of injury)
  - Request referral to a registered dietitian for patient evaluation and education regarding nutrition, consuming a healthy diet, and making dietary changes to promote symptomatic relief of GERD
  - Follow facility pre- and postsurgical protocols if patient becomes a surgical candidate (e.g., for laparoscopic Nissen fundoplication)
    - Reinforce pre- and postsurgical education, and verify completion of facility informed consent documents

› **Promote Emotional Well-Being and Educate Patient/Patient’s Family**
  - Assess patient/family anxiety level and for knowledge deficits regarding GERD and its treatment; provide emotional support and educate about GERD pathophysiology, potential complications, treatment risks and benefits, and individualized prognosis
  - As appropriate, request referral to a social worker for identification of local resources for health education programs, support groups, in-home services, transportation, and assistive devices

**Food for Thought**

› Because of the increased risk for GERD-related complications, a more aggressive treatment approach might be needed when treating older adult patients, including higher doses of prescribed medications and earlier screening for complications compared with younger patients
  - Researchers in a randomized controlled trial including 1,235 patients diagnosed with GERD found that manual acupuncture or electroacupuncture treatment for GERD in combination with Western medicine (WM) versus WM alone, improved symptoms in patients with GERD. Patients also described that acupuncture improved their QOL (Zhu et al., 2017)
Alginates are alternative medications that can remove the post-prandial gastric acid pocket (i.e., a pH < 4 in an area of the proximal stomach between nonacid food and lower esophageal sphincter). Researchers in a systematic review and meta-analysis found that Alginate-based therapies decreased GERD symptoms compared with placebo or antacids, but were less effective than PPIs or H2 receptor antagonists (Leiman et al., 2017).

The American College of Physicians recommends performing upper endoscopy for patients with GERD in the following cases (Shaheen et al., 2012):

- Patients who have heartburn, dysphagia, bleeding, anemia, weight loss, and recurrent vomiting
- Patients who have GERD-related symptoms that persist after a 4–8 week course of a PPI taken twice each day is completed
- To evaluate for healing and for the presence of Barrett’s esophagus inpatients with erosive and severe esophagitis following 2 months of treatment with a PPI
- For surveillance monitoring every 3–5 years for patients with Barrett’s esophagus who do not have dysplasia and more frequently for those with dysplasia.
- Patients who have an esophageal stricture and persistent dysphagia

**Red Flags**

Although PPIs are relatively safe and generally well tolerated, long-term PPI use has been associated with increased risk of:

- diarrhea associated with *Clostridium difficile* infection
  - Patients receiving treatment with a PPI should contact their treating clinician immediately if they develop diarrhea that does not improve
- fractures of the hip, wrist, and spine
- community-acquired pneumonia
- drug interactions (e.g., PPIs inhibit the effects of the antiplatelet drug clopidogrel)
  - Risk for potentially severe drug interactions should be closely monitored because many patients with GERD receive drugs for other health conditions
- Patients who have undergone antireflux surgery should be monitored for adenocarcinoma

**What Do I Need to Tell the Patient/Patient’s Family?**

- Educate about GERD, including pathogenesis, risk factors, and long-term management, including details of the prescribed medication regimen
- Educate older adult patients about medications (e.g., beta blockers, bisphosphonates) that can decrease LES pressure as a side effect; provide a written list of drugs to avoid, if available, to reinforce verbal education
- Educate regarding the importance of making long-term lifestyle modifications, including to:
  - lose weight if overweight and wear loose-fitting clothing around the waist and abdomen
  - eat small meals and avoid eating for 3 hours before bedtime
  - avoid lying down for 2 hours following meals
  - elevate the head of the bed
  - drink large amounts of water when taking medications
  - avoid eating foods that they have observed to cause symptom exacerbation of GERD
- Educate regarding increased risk for Barrett’s esophagus and the importance of continued medical surveillance of health status

**References**

