TABLE 35-1 TREATMENT OF GASTROESOPHAGEAL REFLUX DISEASE

- Lifestyle modifications
- Antireflux medications
  - Histamine-2 receptor antagonists
  - Proton pump inhibitors
- Transient LES relaxation reducers
  - Baclofen
- Visceral pain modulators
  - Tricyclic antidepressants
  - Trazadone
  - Selective serotonin reuptake inhibitors
  - Serotonin-norepinephrine reuptake inhibitors
- Antireflux surgery
- Endoscopic treatment
- Alternative and complementary medicines
  - Acupuncture
- Psychological intervention

LES, Lower esophageal sphincter.

The initial aims of GERD management are confirmation of the diagnosis of GERD, adequate relief of GERD symptoms, and healing of esophagitis, if present. Among patients with mild-to moderate erosive esophagitis (Los Angeles grades A and B), PPIs are superior to histamine-2 receptor antagonists in providing healing of mucosal erosions and relief of GERD symptoms. For patients with severe erosive esophagitis (Los Angeles grades C and D), PPIs are the sole treatment; in some of these patients, even doubling of the dose of PPI is not infrequently required. Failure of a 4-week course of initial therapy with a PPI should prompt a review of the diagnosis if it is based solely on symptoms. For patients without adequate response to once-daily PPI, addition of a second daily dose before the evening meal is a reasonable next step.

The aims of long-term management of GERD are satisfactory control of reflux symptoms, maintenance of healing of erosive esophagitis, prevention of complications, and improvement of quality of life. Because GERD is predominantly a chronic relapsing disorder, the balance of priorities for long-term care differs from that of initial therapy.

Patients with atypical or extraesophageal manifestations of GERD should be offered double doses of PPI as the initial course of therapy. A response lag of up to 6 months may be encountered.

For patients who are unwilling to take medications for long periods and those who cannot tolerate the side effects of antireflux treatment, surgery is a reasonable alternative, provided that they are fully informed about the risks and possible complications of the procedure (e.g., increased flatulence, dysphagia, diarrhea, early satiety).

SEQUELAE OF GASTROESOPHAGEAL REFLUX DISEASE

Common complications of GERD include esophagitis, ulceration, and esophageal stricture. Strictures typically produce progressive dysphagia to solids and often require endoscopic dilatation to relieve the obstruction followed by intensive antisecretory therapy to prevent recurrence.

Barrett's Esophagus

BE is defined as a change in the esophageal epithelium of any length that can be recognized at endoscopy and confirmed to involve intestinal metaplasia by biopsy of the tubular esophagus (E-Fig. 35-2A). It is considered to be an acquired condition associated with GERD. Of those individuals undergoing endoscopy for any reason, up to 2% may have BE; among those undergoing an endoscopy for GERD-related symptoms, 3.5% to 9.6 % are found to harbor this premalignant lesion. Both BE and esophageal adenocarcinoma are much less common in non-Caucasian populations; the reasons are not defined. There are data suggesting that obesity and smoking contribute to the risk of adenocarcinoma arising from BE.

Many authors divide these lesions into short-segment and long-segment BE, based on the length of the metaplastic epithelium (<3 cm and ≥3 cm, respectively). Another approach is the Prague circumference and maximum length criteria: The length: The length of BE is divided to the part (if any) in which the columnar-like epithelium is circumferential (C)and the part that is composed only of metaplastic tongues (M). It is more common to find dysplasia in patients with long-segment BE, and there is a correlation between the length of Barrett's epithelium and the risk of developing dysplasia and adenocarcinoma of the esophagus.

Given the increased risk of adenocarcinoma development, surveillance of patients with known BE is recommended (see E-Fig. 35-2B). The lack of large-scale studies on which to base these recommendations has led to a variety of guidelines based on presumed risk. Because inflammation can mimic the cellular and nuclear changes that are often seen with dysplasia, all patients with BE should be adequately treated with acid suppression therapy (i.e., PPI) before endoscopy. Even if antireflux surgery has been performed, a surveillance program is still warranted.

Under most circumstances, patients with BE without dysplasia should have endoscopic surveillance at 3- to 5-year intervals or if their symptom pattern changes. Multiple biopsies, taken every 2 cm in four quadrants, are recommended. Biopsies should be reviewed by a pathologist familiar with Barrett's metaplasia. If dysplasia of any degree is found, the biopsy specimens should be forwarded to another pathologist who specializes in Barrett's histopathology.

Dysplasia is typically categorized as low-grade, high-grade, or indefinite for dysplasia (see E-Fig. 35-2C). Current recommendations suggest that patients with high-grade or low-grade dysplasia confirmed by an expert pathologist should undergo repeat endoscopy within 6 months. If there is no change, radiofrequency ablation of the Barrett's mucosa is recommended. Various, mucosal ablative techniques are available, including photodynamic therapy, radiofrequency ablation, cryoablation, and argon plasma coagulation.

DYSPHAGIA

Dysphagia means difficulty in swallowing. Dysphagia may result from any alteration of the swallowing process, from bolus entry into the mouth to entry into the stomach. Given the complexity of this process, a wide array of abnormalities may be involved and the symptoms are poorly discriminating. Dysphagia may be divided into abnormalities related to the movement of a food bolus from the mouth to the esophagus (transfer or oropharyngeal dysphagia) and alterations of movement from entry into the esophagus to the stomach (transport or esophageal dysphagia) (Fig. 35-1).

Oropharyngeal Dysphagia

The process of moving a food bolus, particularly liquids, from the mouth to the esophagus, coming as it does in close proximity to