Medications to Treat Gastroesophageal Reflux Disease

If the cardiac sphincter is loose, stomach acid can move upward into the esophagus, thus causing irritation and damage to the mucosa. This can result in **gastroesophageal reflux disease (GERD)** (Fig. 19-2). The burning sensation that the patient feels when acid damages the esophagus is **heartburn.** Heartburn does not actually involve the heart, but pain is localized near the heart, and patients often report that it feels like their heart is burning. Several medications are available to alleviate the symptoms of GERD and also promote healing.

Antacids

Antacids, as the name implies, decrease the amount of hydrochloric acid (HCl) in the stomach. Antacids create a more alkaline environment, which neutralizes the acid and protects the vulnerable mucosa, thereby relieving the pain and destruction associated with GERD. Except for sodium bicarbonate (baking soda), antacids are not readily absorbed and do not alter the pH of the entire body. These medications contain aluminum, calcium, magnesium, sodium, or a combination of these active ingredients. Thus, the prescriber will choose an antacid based on which of these substances the patient would benefit from best and which should be avoided. For example, a woman with osteoporosis would benefit from a calcium-based antacid. Conversely, a patient suffering from calcium-based kidney stones should avoid dietary calcium, so another medication would be chosen.

Some antacids may need to be taken regularly to condition the stomach to decrease acid production. Timing of these medications is critical; they must be taken before food. Sometimes antacids are given in suspension form, which must be shaken, or chewable tablets. Chewable tablets are usually taken with a glass of water or milk. Action occurs within 30 minutes to 3 hours. H_2-receptor blockers are given 1 hour before or 3 hours after meals. Long-term use of antacids can increase acid secretion. Patients should be cautioned not to overuse sodium bicarbonate because of its systemic effect, and they should be told that changing gastric acid pH may affect absorption of other medications.

Antacids are also used to lower elevated acid levels resulting from spicy foods and to decrease the nausea related to pregnancy hormones. Many mild antacids, such as Tums and Rolaids, are available OTC.

Proton Pump Inhibitor Drugs

Proton pump inhibitors reduce the acidity of the stomach by binding to stomach enzymes. Because they block the enzymes that cause acid production, these medications tend to protect the stomach for a longer period of time than those medications that just counteract the acid. They inhibit hydrogen and potassium ions and are used as short-term treatment for GERD and benign peptic ulcers. Side effects include abdominal pain, headache, constipation, diarrhea, and nausea. Examples of proton pump inhibitors are esomeprazole (Nexium), lansoprazole (Prevacid), omeprazole (Prilosec), pantoprazole (Protonix), and rabeprazole (Aciphex). These medications are given by mouth and are mostly available by prescription, although some are beginning to be available in low doses OTC. In addition, all of these

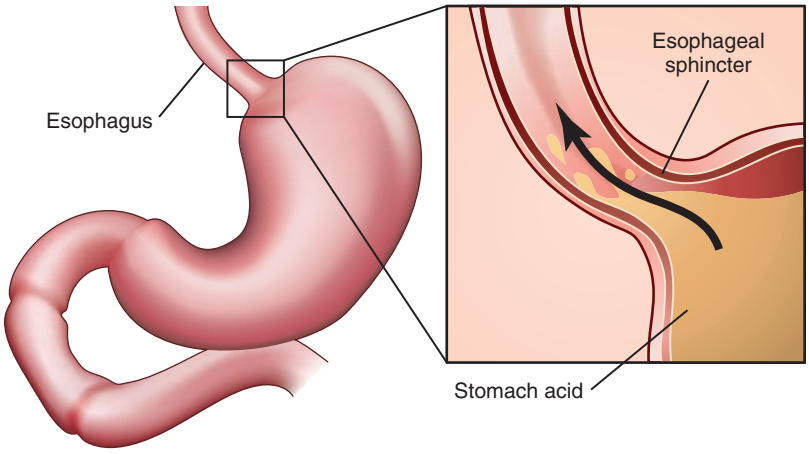

FIGURE 19-2: Gastroesophageal reflux disease.