Introduction

With gravity's help, a muscular valve called the lower oesophageal sphincter helps to keep stomach acid in the stomach. Normally, it opens to allow food to pass into the stomach, then closes again. If the lower oesophageal sphincter opens too often or does not close tightly enough, stomach acid can reflux or seep into the oesophagus and cause a burning sensation. The passage of stomach contents into the oesophagus (gastro-oesophageal reflux) is a normal process. Most episodes are brief and do not cause symptoms, injury or other complications. However, reflux becomes a disease when it either causes damage to the oesophagus or results in symptoms that reduce the patient's quality of life.

Heartburn

Heartburn is an irritation of the oesophagus that causes a painful burning sensation in the chest or throat. It occurs when stomach acid backs up into the oesophagus, the tube that carries food from the mouth to the stomach. This can create a burning discomfort in the upper abdomen or below the breast bone. The basic cause of heartburn is a lower oesophageal sphincter that doesn’t tighten as it should. Two excesses often contribute to this problem; too much food in the stomach, i.e. overeating, or too much pressure on the stomach, i.e. frequently from obesity, pregnancy or constipation. Certain food may relax the lower oesophageal sphincter, including tomatoes, citrus fruit, garlic, onions, chocolate, coffee, alcohol, caffeinated products and peppermint. Meals that are high in fat and oil (animal or vegetable) often lead to heartburn, as do certain medications. Stress and lack of sleep may increase acid production and cause heartburn. Smoking, which relaxes the lower oesophageal sphincter and stimulates stomach acid, is a major contributor. However, occasional heartburn is generally not a cause for concern.

Gastro-oesophageal reflux disease

Gastro-oesophageal reflux disease (GORD) is a condition that develops when the reflux of stomach contents causes troublesome symptoms and/or complications.

If the patient experiences heartburn more than twice a week, he or she may have GORD. However, GORD may also occur without any heartburn symptoms.

Symptoms

The symptoms of acid reflux include:

- A burning sensation in the chest, known as heartburn
- A burning sensation, or an acidic taste, in the throat
- Stomach or chest pain
- Difficulty in swallowing
- A raspy voice or a sore throat
- An unexplained cough.
Management

Lifestyle changes

Lifestyle changes may be effective as an initial approach to the treatment of mild or infrequent symptoms of GORD. Lifestyle changes may be helpful when used together with medicines in patients with moderate or severe symptoms.

The following approaches may provide benefit to patients with acid reflux:
- Losing weight, if overweight
- Raising the head of the bed
- Avoiding food that worsens the symptoms, such as coffee, chocolate, alcohol, peppermint, and spicy and fatty food
- Cutting down on the amount of alcohol consumed
- Stopping smoking
- Eating smaller meals more frequently, rather than two or three large meals
- Avoiding lying down for three hours after a meal
- Avoiding tight-fitting garments to prevent pressure on the stomach area.

Medicines used to treat heartburn and gastro-oesophageal reflux disease

The symptoms of heartburn generally respond well to over-the-counter treatment. Several treatment options are available to control the symptoms and prevent complications in patients with GORD. The treatment of choice depends upon the patient’s age, the type and severity of symptoms and response to treatment.

“Several treatment options are available to control the symptoms and prevent complications in patients with GORD”

Medication that is used for the symptomatic treatment of acid-related disorders can be grouped into the following categories:
- Antacids
- Alginates
- Surface agents
- Histamine type 2-receptor antagonists (H2RAs)
- Proton-pump inhibitors (PPIs).

All of these medicines work by reducing or blocking stomach acid, but they each work in a different way. Antacids and surface acting agents may relieve mild symptoms, but they work only for a short period. H2RAs are more effective and their effects last longer than antacids and surface acting agents. PPI medication is the most effective available medicine for short- or long-term acid suppression.

Antacids

Antacids work by neutralising the gastric acid. Antacids are appropriate for the short-term relief of heartburn in older children, adolescents or adults with infrequent symptoms (less than once a week). Antacids begin to provide relief from heartburn within five minutes, but have a short duration of effect of 30-60 minutes. Antacids are best taken...
...an hour after meals and again at bedtime. Antacids may be effective in controlling the symptoms of heartburn and acid reflux, and are more so in combination with an alginate. The various commercially available preparations usually contain a combination of magnesium and aluminium hydroxide or calcium carbonate. Preparations that are high in sodium should be avoided by anyone on a sodium-restricted diet, e.g. those with heart failure, or kidney or liver problems.

**Alginates**

Sodium alginate, which is derived from seaweed, forms a surface gel that creates a physical barrier against the regurgitation of the gastric contents and protects the oesophagus. Alginate forms a raft that sits on the surface of the stomach contents and prevents acid reflux.

“Surface agents work by creating a barrier that helps to prevent injury to the oesophagus.”

Some alginate-based products contain sodium bicarbonate, which, in addition to its antacid action, causes the release of carbon dioxide in the stomach, enabling the raft to float on top of the stomach contents.

Surface agents work by creating a barrier that helps to prevent injury to the oesophagus. Sucralfate, e.g. Ulsanic®, adheres to the mucosal surface, promoting healing and protecting the oesophagus from further injury. Currently, it is used infrequently in the treatment of children with GORD.

**Histamine type 2-receptor antagonists**

H₂RAs, such as cimetidine and ranitidine, inhibit acid secretion by blocking the histamine H₂ receptors on the parietal cell of the stomach. H₂RAs have a moderate effect on GORD, as measured by the relief of symptoms. Also, because they have a relatively rapid onset of action, they are well suited to providing symptomatic relief. The H₂RAs have a longer duration of action, of up to 8-9 hours, and a slower onset of action than the antacids. When food is known to precipitate symptoms, the H₂RA should be taken an hour before food. H₂RAs are also effective for the prophylaxis of nocturnal heartburn. OTC medication includes cimetidine, e.g. Lenamet®-OTC, and ranitidine, e.g. Zantac® 75. Higher doses of these medications are available with a prescription.

**Proton-pump inhibitors**

PPIs block acid secretion by irreversibly binding to and inhibiting the so-called proton pump in the stomach. OTC PPIs include pantoprazole, e.g. Topzole® OTC, and lansoprazole, e.g. Lancap®15 mg.

**Surgery**

Anti-reflux surgery appears to be successful in controlling reflux in many patients with debilitating GORD who have not responded to medicines.

**Conclusion**

Some people may be able to manage their acid reflux through dietary modifications, lifestyle changes and/or by taking non-prescription medication. The pharmacist’s assistant can play an important role in helping patients to select an appropriate OTC medication that will help to relieve and treat the symptoms. The pharmacist’s assistant can also offer practical advice on measures to prevent recurrence of the condition. However, if the symptoms persist, return when the medicines are stopped, or if they worsen, the patient should be referred to a doctor.

**Bibliography**


