Over-the-counter management of gastro-oesophageal reflux disease

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Introduction

There is a high prevalence of heartburn and acid regurgitation (reflux) in the general population, and the severity and frequency of symptoms vary between patients. Some patients may only experience infrequent/occasional reflux, while others may experience severe or frequent episodes which disrupt daily life.

Understanding gastro-oesophageal reflux disease

After swallowing, the food is carried from the mouth via the oesophagus to the stomach. The stomach produces gastric acid that aids in the digestion of food.

When functioning normally, the circular ring of muscles between the stomach and the oesophagus, known as the lower oesophageal sphincter (LOS):

- Opens or relaxes to allow food or liquid in the oesophagus to pass into the stomach.
- Then closes to prevent contents from the stomach (including acid and bile) backing up into the oesophagus.

Reflux occurs when the LOS becomes weakened or relaxes inappropriately thus allowing acidic contents from the stomach to flow back into the oesophagus and/or mouth.

Healthy people of all ages may experience occasional acid regurgitation (reflux), usually after eating a meal. In most cases, it is short-lived, and does not cause troublesome symptoms or complications.

Compared to the stomach lining that is resistant to the irritant effects of acid, the oesophagus is readily irritated by acid (since it does not have a protective lining). Constant reflux of stomach contents from the stomach into the oesophagus can irritate and damage the sensitive lining of the oesophagus causing troublesome symptoms. When this happens, it is referred to as gastro-oesophageal reflux disease (GORD).

Typical symptoms of GORD include:

- Acid reflux (regurgitation) causes an unpleasant sensation of acid at the back of the mouth or throat (sour taste).
- Heartburn is a burning sensation in the centre of the chest (behind the breastbone but can sometimes spread to the throat).

Other symptoms may include:

- Stomach pain (pain in the upper abdomen)
- Chest pain
- Difficulty swallowing (dysphagia)
- Pain on swallowing (odynophagia)
- Hoarseness
- Persistent sore throat or laryngitis
- Chronic cough
- Sensation of a lump in the throat
- Nausea and/or vomiting
- Sleep disturbances

When to refer

Before OTC treatment is considered, it is important to ask the patients about the presence of alarm or "red flag" symptoms. Patients experiencing signs and/or symptoms of a more serious nature should be referred to a doctor (Table I).

Table I: Patients who require referral to the doctor

Red flag symptoms that require referral:
- Difficult or painful swallowing
- Involuntary (unexplained) loss of weight
- Chest pain (to rule out heart disease)
- Recent cough or hoarseness
- Choking attacks, particularly at night
- Persistent vomiting
- Signs of bleeding in the gastrointestinal tract, such as blood in stools, black stools, blood in vomit

Referral is also required for:
- Pregnant women
- Patients with:
  - New symptoms/stomach pain in those aged 50 years or older
  - Severe symptoms
  - Persistent symptoms

Treatment

Treatment depends on the severity and frequency of symptoms. Intermittent treatment and lifestyle and/or dietary modifications (Table II) may be sufficient for patients with infrequent episodes of heartburn (less than two episodes per week).

However, patients experiencing more frequent episodes (e.g. on two or more days per week) may require over-the-counter (OTC) medicine such as a proton pump inhibitor (PPI) or a histamine-2 receptor antagonist (H_2RA).

Table II: Lifestyle modification

Patients should be advised to:
- Maintain a healthy weight; losing weight may help to reduce reflux in those who are overweight
- Stop smoking
- Avoid wearing tight or restrictive clothing
- Raise the head of the bed by about 15–20 cm (especially for those experiencing night-time heartburn). Doing this would allow the head and shoulders to be higher than the stomach, thus allowing gravity to prevent acid from flowing back into the oesophagus and mouth
- Try to relax and reduce stress

Reflux is more likely to occur soon after a large meal. To minimise the risk of reflux, patients should be advised to:
- Consume smaller and more frequent meals
- Avoid late meals and lying down soon after eating
- Limit food or drinks that may trigger symptoms (such as excessive caffeine, alcohol, chocolates and fatty foods)

Antacids

Antacids contain ingredients such as aluminium hydroxide, magnesium trisilicate and/or calcium carbonate. They work by neutralising the stomach acid. However, they do not prevent GORD.

Antacids typically start working quickly (within five minutes), but they only provide short-term relief of heartburn symptoms. Antacids should preferably be taken an hour after meals and again at bedtime.

Antacid combined with other agents

- Antacid-alginates

Alginates form a viscous gel that floats on the surface of the stomach contents that protects the stomach and oesophagus from stomach acid. Compared to antacids alone, antacid-alginates may provide longer symptom relief. Antacid-alginates are effective in controlling meal-induced symptoms.

- Antacids combined with other agents

Antacids are sometimes combined with a local anaesthetic (e.g., oxethazaine), an antifoaming agent (e.g., dimethicone or simethicone) or an antispasmodic (e.g., dicyclomine). However, the addition of an antifoaming agent or a local anaesthetic does not add to the efficacy of the antacid.

Points to consider

- Aluminium-based antacids tend to cause constipation.
- Magnesium-based antacids tend to have a laxative effect.
- Aluminium-magnesium combination may cause fewer bowel disturbances compared to single agents.
- Sodium containing antacids should be avoided in pregnant women and in patients on a restricted sodium diet, for example, patient with high blood pressure.

H_2RAs

H_2RAs reduce the secretion of acid in the stomach by blocking the action of histamine on the histamine-2 receptors on the parietal cells in the stomach.

OTC H_2RAs (for example, cimetidine) are available for short-term (limited to 14 days) relief of heartburn, dyspepsia and hyperacidity. Although they take longer to start working than antacids, they are more effective in relieving heartburn and their effect lasts longer than that of antacids.

PPIs

PPIs reduce the amount of acid made by the stomach. They work by blocking the final step of acid production by inactivating the enzyme responsible for acid production (hydrogen-potassium ATPase pump) in the parietal cells in the stomach wall.

PPIs are the most potent inhibitors of gastric acid and are typically recognised as being the most effective medicine in reducing stomach acid. Compared to H_2RAs, PPIs have been found to be more effective in relieving heartburn and reflux. PPIs also provide faster symptom relief.

OTC PPIs (such as lansoprazole, omeprazole and pantoprazole) are approved for short-term (maximum duration of 14 days) relief of heartburn and hyperacidity. The different PPIs have comparable clinical efficacy and choice of product depends on cost, personal preference, the potential for interactions and side effects.

Better symptom control is achieved with continuous dosing (taking PPI daily for 14 days) compared to on-demand use. Patients who do not respond to two weeks of PPI treatment should be referred to a doctor.

Table III: OTC antacids, H_2RAs and PPIs

		OTC examples (include, but are not limited to)
OTC antacids	Aluminium hydroxide	Amphogel®
	Magnesium hydroxide	Phipp's Milk of Magnesia®
	Aluminium/magnesium combination	Adco-Mayogel®
	Calcium/magnesium combination	Digestif Rennie®
	Calcium carbonate	Eno chewable tablets®
	Antacid-alginate combination	Gelacid®, Gaviscon double action liquid®, Gaviscon peppermint tablets®
	Antacid with antiflatulents	Gelusil-S®
	Antacid with antispasmodics	Alumag D®
	Antacid with local anaesthetic	Mucaine®
H_2RA	Cimetidine	Lenamet OTC®
PPIs	Lansoprazole	Lansoloc OTC®, Roznal OTC®, Lancap OTC®
	Omeprazole	Rapacid®
	Pantoprazole	Pentoz OTC®, Peploc OTC®, Prazoloc OTC®, Topzole OTC®

In a nutshell

- Remember "safety first" – Identify and refer patients with "red flag" symptoms.
- Consider the frequency and severity (intensity) of symptoms as well as the degree to which they impact the quality of life and daily function before selecting treatment.
- Consider possible interactions if the patient is already using medication for other medical conditions, for example:
  - Antacids may alter the absorption of several other medications (such as antibiotics). To reduce the possibility of interference with other medication, antacids should be taken at least two hours before or after other oral medication.
  - Cimetidine has a high potential for drug interactions.
- Antacids or alginate-antacid may be used for occasional heartburn (occurring less than once a week). They may also be used for rapid symptom relief in patients experiencing breakthrough symptoms while taking an acid inhibitor.
- H_2RAs or PPIs may be considered for patients experiencing more frequent symptoms.
- OTC treatment with H_2RAs or PPIs is limited to 14 days to ensure that patient do not continue to self-medicate. If symptoms do not improve after 14 days of treatment or recur, the patient should be referred to the doctor.

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