

In each issue, UK General Practitioner Dr. James Kennedy considers a common medical problem and summarises the pragmatic evidence-based advice that can be offered to people wanting to look after themselves.

SELF CARE OF HEARTBURN

Key Words: Heartburn, Dyspepsia, GERD, antacids, H2 receptor antagonists, Proton Pump inhibitors.

INTRODUCTION

Heartburn is the commonest manifestation of dyspepsia in adults and the most easily self-diagnosed. Frequent heartburn can produce significant deterioration in the quality of life of sufferers but rarely requires formal investigation.

There are many self care options available to treat heartburn, ranging from simple lifestyle advice to treatment with proton pump inhibitors, and this very variety can cause confusion. Consumers may be unaware of the relevant properties of treatments that determine which is the best choice for them.

Many people with intermittent symptoms require only an awareness of the triggers for episodes and occasional self medication with antacids; these individuals seldom seek advice. However more frequent sufferers may consult healthcare professionals, often after a period of sub-optimal self care. These individuals are best served by advice and treatment tailored to their pattern of suffering.

HEARTBURN

The characteristic retro-sternal burning discomfort of heartburn is readily recognised and is not generally confused with symptoms of other pathologies. Most heartburn occurs in the post-prandial period, when the stomach is full and acid secretion is highly stimulated. Reflux of acid gastric contents into the lower oesophagus is the primary cause of the discomfort and occurs when the function of the lower oesophageal sphincter is compromised, either as a result of inappropriate relaxation (sometimes in response to nicotine or alcohol, and in pregnancy to gestational hormones), anatomical displacement as in hiatus hernia, or high intra-abdominal pressure as in late pregnancy or obesity.

Heartburn is highly prevalent in western societies with 35% of the general population suffering at least once a month¹. The great majority of people with heartburn in the community will have a normal oesophageal appearance on endoscopy² and it is partly for this reason that prescribing guidelines propose a symptom-led approach to heartburn and associated symptoms of dyspepsia.

OPTIONS FOR SELF CARE OF HEARTBURN

LIFESTYLE ADVICE

Most frequent heartburn sufferers are aware of factors that make their symptoms worse and become adept at adjusting their lifestyle accordingly. Drinking alcohol and smoking are major exacerbating factors that need to be addressed if treatment is to be successful. Weight loss for the overweight sufferer is also an important starting point whatever else is recommended.

All heartburn sufferers, but in particular women suffering heartburn in pregnancy and wishing to avoid medication, should be reminded of the following sensible measures:

- Eat small regularly spaced meals rather than fewer heavy meals. Foods with high fat and protein contents (including dairy produce) stimulate acid production and delay gastric emptying.
- Avoid irritant food triggers: e.g. highly spiced or chilli-containing foods, acidic fruit juices, caffeine containing drinks, tomatoes, and foods with high osmolarity such as chocolate.
- Avoid exercise or tasks involving lifting or bending soon after eating.

For those who suffer particularly at night:

- Avoid eating close to bedtime. A gap of at least 3 hours between the last meal of the day and retiring is recommended.
- Raising the head of the bed on blocks can help to reduce positional reflux and heartburn at night.

ANTACIDS AND ANTACID/ALGINATE COMBINATIONS

Antacids have been used since antiquity to treat upper gastrointestinal symptoms and are still popular remedies for indigestion and heartburn. The various ingredients vary both in the speed of neutralising acid and neutralising capacity. Combinations of faster and slower acting ingredients are common, as are combinations of drugs with opposite ancillary properties (e.g. constipating and laxative effects). However all antacids share the following features:

- Acid in the oesophagus and stomach may be partly or completely neutralised for rapid relief of symptoms but further gastric acid production will occur and may be stimulated via a gastrin-mediated response to a rise in gastric pH. This 'acid rebound' appears to be a particular feature of some short-acting antacids.
- The action of even 'long acting' antacids (e.g. hydrotalcite) is terminated by gastric emptying.
- The consumption of further food will contribute to the termination of activity as gastric acid production is stimulated.

- By virtue of their mode of action, antacids cannot be used to prevent symptoms associated with 'trigger' foods.

For these reasons antacids require regular re-dosing as symptoms return.

Combinations of antacids with alginates are popular in the treatment of heartburn. The ingredients are designed to form a 'raft' on top of the gastric contents thereby inhibiting further reflux of acid into the oesophagus. However, in common with antacids, the action of these preparations is terminated by gastric emptying and attenuated when further food is consumed. Also lying flat will interfere with the functioning of the 'raft' and may reduce the usefulness of these products during sleep.

Despite these limitations, people with infrequent or mild symptoms may find their symptoms adequately controlled with antacids or antacid/alginate mixtures³.

LOW DOSE H2 RECEPTOR ANTAGONISTS

In the early 1990's low dose H2 blockers (famotidine 10mg and ranitidine 75mg) were introduced for the relief of heartburn and indigestion. As these drugs reduce the production of gastric acid rather than neutralising acid already present, they differ in several respects from antacids:

- They cause a rise in gastric pH as acid production is reduced, therefore the onset of effect is delayed relative to antacids. In large heartburn studies the earliest onset of symptom relief occurs around 30 minutes^{4,5} and peak effects are 1 – 1.5 hours after treatment.
- The anti-secretory effect, even with low doses, is prolonged and lasts for around 10-12 hours⁶. This means dosing frequency compared to antacids can be reduced and many subjects require only one dose per day. This is particularly useful in a night-time setting to prevent heartburn interfering with sleep⁷.
- These drugs can be taken before meals to reduce predictable heartburn after 'trigger' foods^{7,8}.

For these reasons the H2 receptor antagonists may be preferred over antacids in those sufferers requiring frequent dosing with the latter. However these drugs exhibit rebound acid hypersecretion (RAHS) with repeated dosing⁹, therefore they are not ideal if treatment is needed for more than a few days continuously.

PROTON PUMP INHIBITORS (PPIs)

Frequent heartburn (more than 2-3 days per week) is predictive of gastro-esophageal reflux disease (GERD) and this warrants more aggressive treatment than is appropriate for mild intermittent symptoms. The goal of treatment in GERD is complete relief of symptoms

whether or not erosive lesions are present, so the frequency of suffering and degree of relief on treatment guide prescribing practice. The consensus in international guidelines is that PPIs are recommended as empirical treatment in response to frequent symptoms in un-investigated GERD as well as endoscopically confirmed erosive or non-erosive GERD¹⁰. These drugs have been demonstrated to be superior to even high dose H2 blockers in healing erosions and providing complete relief of symptoms^{11, 12} in such patients.

In practice, the consumer that needs a PPI is the frequent heartburn sufferer with inadequate symptom control on antacids and H2 blockers. These individuals almost certainly have GERD and some may even have erosive disease. GERD is a chronic condition in many cases and therefore symptomatic treatment may need to be prolonged¹. Current guidelines in the UK recommend treating these individuals with full dose PPI initially, and then maintaining them symptom free with the lowest possible dose^{13, 14}.

Studies in primary care have found that many patients with GERD do not take maintenance PPIs regularly but dosed on an 'as needed' basis¹⁵. The concept of 'on demand' therapy has been much discussed, particularly as a strategy for treating non-erosive disease. Studies with omeprazole¹⁶ and esomeprazole¹⁷ suggest that over 80% of subjects (with non-erosive disease) can be maintained successfully with on-demand treatment and overall drug intake is reduced by 50-66% with this pattern of treatment. Such 'as required' usage is recognised as an acceptable option in current dyspepsia guidelines for General Practitioners in the UK¹³.

There has been relatively little focus on very early symptomatic relief with PPIs, probably because the underlying mechanism of action suggests that maximal effects will take days. Nonetheless all have some degree of early antisecretory activity and so some early symptom relief is possible. A meta-analysis looking at symptom relief in the first days of treatment concluded that around 30% of subjects had complete relief for the entire day with their first dose of PPI, the remainder required several days for symptom control¹⁸.

Rebound acid hyper-secretion (RAHS) is a recognised phenomenon with H2 receptor antagonist treatment lasting more than a few days, but RAHS after PPIs does not seem to develop rapidly. A recent systematic review¹⁹ on RAHS with PPIs found no strong evidence for a clinically relevant increase in acid production upon withdrawal of proton pump inhibitors, at least after periods of use up to 25 days.

CONCLUSION

Heartburn sufferers may seek advice after trying some of the many self care options available to them. Even experienced sufferers will sometimes benefit from reminders of the lifestyle adjustments they can make to reduce their chances of suffering. When these are inadequate alone, self care will be most successful when the choice of treatment is tailored to the pattern of symptom suffering (Table 1).

Table 1: Tailored Treatment for Heartburn	
Pattern of heartburn	Suitable Treatment
Intermittent, short term heartburn needing fast relief	Antacids or antacid / alginate mixtures
Longer lasting episodes (e.g. night time) needing a longer duration of effect	H2 receptor antagonists
Predictable heartburn after trigger foods	H2 receptor antagonists taken before unavoidable exposure
Frequent heartburn or episodes needing treatment for more than a few days	Proton Pump Inhibitors; reduce to minimum dose and/or dose intermittently when symptoms controlled

Intermittent and short term heartburn may be adequately managed with antacids, especially when speed of relief is the primary requirement. More frequent sufferers may value the duration of effect available with H2 receptor antagonists, particularly when suffering at night is prominent. Others may find the prophylactic use of these drugs, before social occasions when exposure to heartburn-inducing factors may be unavoidable, to be a useful self care tactic.

Those with heartburn requiring more than antacids and H2 blockers intermittently, may be best served by taking PPIs. These drugs are particularly well suited to periods of daily use, initially at full dose, but when symptom control is established, at the lowest effective dose. These drugs seem to maintain their effect over time, and are also successful as intermittent 'on demand' treatment. However consumers should be reminded that they are unsuited to circumstances when fast relief is required.

The need for investigation of dyspepsia, including heartburn, is guided by the presence of the well known 'alarm' symptoms (e.g. significant unintentional weight loss, recurrent vomiting, dysphagia, haematemesis, melena or recently changed symptoms in people aged 55 or more). However, those with classic heartburn symptoms can usually manage themselves with guidance from health care professionals. The minority needing long term or continuous treatment, or those with difficult-to-control symptoms should be advised to consult again for further investigation.

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