



Gastro-oesophageal reflux disease

Current concepts in management

BACKGROUND Gastro-oesophageal reflux disease (GORD) is defined as recurring symptoms or mucosal damage resulting from exposure of the distal oesophagus to reflux of gastric contents. In the past, GORD has been managed with a 'step up' approach beginning with antacids and progressing to H₂ antagonists or proton pump inhibitors (PPI) as required.

OBJECTIVE This article presents a systematic approach to the management of GORD.

DISCUSSION Diagnosis of GORD is made on the basis of symptoms and the decision to treat is based on the symptom pattern. Endoscopy is reserved for cases where there are alarm symptoms, diagnostic uncertainty, poor response to treatment or clinical suspicion of a complication such as Barrett's oesophagus or stricture. A 'step down' approach to treatment involves treating with a PPI for 4–8 weeks. Aggressive therapy is then reduced to maintenance doses, intermittent therapy or in some cases, withdrawn. However, relapse occurs in about 70% of all patients within 6 months. A step down approach ensures more rapid resolution of symptoms, improved quality of life, reduced risk of complications, and overall lower cost.

Upper gastrointestinal symptoms are common in the community, and in general practice. While self medicating using over-the-counter preparations (usually antacids) is common, if symptoms persist definitive treatment may be necessary both to relieve symptoms and prevent or treat complications.

Guidelines produced by authoritative bodies both in Australia and overseas have changed the approach to diagnosis and management and have acknowledged the need to distinguish between gastro-oesophageal reflux disease (GORD) and simple indigestion or dyspepsia. These guidelines emphasise a clinical approach to diagnosis and management of GORD using proton pump inhibitors (PPIs) in a stepped regimen.^{1,2}

Definition

Gastro-oesophageal reflux disease is defined as 'symptoms or mucosal damage (oesophagitis) resulting from exposure of the distal oesophagus to reflux of gastric contents'.³ These symptoms should occur regularly, at least 1 day per week, for the diagnosis to be made. Relaxation of the lower oesophageal sphincter is the major determinant of reflux. While hiatus hernias are commonly found in reflux disease, they are not the cause of GORD.

Epidemiology

Prevalence varies and is influenced by the definition of GORD used in any particular study. In a large community survey, Jones⁴ found that 30% of the adults had experienced either reflux or reflux-like symptoms in the 12 months preceding the study. The Bettering the Evaluation and Care of Health (BEACH) report that examines the prevalence of conditions managed in



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Australian general practice, identified a prevalence of 20% in the sample of 3018 patients studied.⁵ This rose to 34% in the population aged over 65 years. General practice prevalence seems in keeping with the population prevalence. There are cultural and ethnic differences in the prevalence of GORD. Studies in the USA⁶ and Europe⁷ place prevalence at around 20% and 10% respectively, whereas the prevalence in Asian communities has been found to be closer to 5%.⁸

Diagnosis

Diagnosis is made on the basis of symptoms and the decision to treat is based on the symptom pattern. Clinical symptoms may result from the reflux itself or complications of the reflux disease. Diagnostic endoscopy should be reserved for special circumstances outlined below, and other investigations should be used judiciously according to Gastro-enterology Society of Australia (GESA) guidelines.²

History

The cardinal and typical symptom is heartburn, or a burning feeling which may begin in the epigastrium and rise retrosternally into the neck. It may be precipitated by meals, postural change, certain medications and stress, and is usually relieved by antacid. Heartburn should be present at least 1 day per week for the diagnosis of GORD to be made.⁹

Other symptoms include regurgitation of food or acid contents of the stomach, waterbrash, or a sudden gush of saliva. Some patients will experience atypical symptoms of chest pain, cough, hoarseness, sore throat or other gastrointestinal symptoms such as bloating, belching or nausea. Gastro-oesophageal reflux disease has a negative effect on quality of life.^{10,11}

Alarm symptoms

It is essential to be aware of the alarm symptoms that may require immediate investigation. These include:

- dysphagia
- odynophagia (painful swallowing)
- haematemesis, and
- weight loss.

In most patients there will be a chronic and relapsing condition without necessarily going onto stricture, Barrett's oesophagus or carcinoma. Relapse is common after a 1–2 month course of acid suppressing medication.

Investigations

Endoscopy

There is generally no direct relationship between the severity of the symptoms and endoscopic findings of oesophagitis. Less than half the patients with typical symptoms of GORD will demonstrate oesophagitis endoscopically. According to GESA guidelines,² endoscopy should be reserved for the following circumstances:

- alarm symptoms
- diagnostic uncertainty
- symptoms not responding to initial treatment
- long standing troublesome symptoms
- symptoms in older people, especially in the Asian population where there is a higher incidence of upper gastrointestinal malignancy
- pre-operative assessment
- to detect and manage Barrett's oesophagus
- reassurance when anxiety persists about diagnosis.

Barium studies

These are not useful in the diagnosis of oesophagitis but may be helpful in demonstrating motility disorders, stricture, large hiatus hernias and pouches in elderly patients.

pH monitoring

This is a highly specialised test that should be reserved for situations when the diagnosis is uncertain and there has been a failed therapeutic trial. It should be carried out in centres familiar with the test and its interpretation.

Helicobacter pylori testing

The relationship of *Helicobacter pylori* infection to reflux disease is complex and controversial. Taken overall, in Australia and most other western countries, neither infection with *H pylori* nor its eradication have major impacts on the occurrence of reflux disease or its natural history. Because PPI therapy may worsen *H pylori* induced gastritis, some authorities recommend eradication if daily PPI is needed long term.¹² However, routine testing for *H pylori* is not recommended.

Management

Management is aimed at:

- relieving symptoms
- improving quality of life
- healing oesophagitis if present, and
- reducing the risk of serious complications.

When symptoms are infrequent, simple measures and self management are sufficient.

Table 1. GORD management: ‘Step down’ versus ‘Step up’ approach

Therapeutic intervention	Step down approach (daily PPI at standard dose)	Traditional step up approach (antacids, H2-receptor antagonist, PPI)
Outcomes	<ul style="list-style-type: none"> • Symptom control within 1 week • Rapid healing of oesophagitis • Diagnostic confirmation 	<ul style="list-style-type: none"> • Weeks to symptom control • Slow healing of oesophagitis • Diagnostic uncertainty
Cost	<ul style="list-style-type: none"> • Lower total drug cost • Lower consultation and investigation 	<ul style="list-style-type: none"> • Higher total drug cost • Higher total consultation and investigation

Adapted from GESA guidelines²

Nonpharmacological/lifestyle

Hard evidence is lacking for many of the time honoured interventions aimed at altering lifestyle related risks. Avoidance of provocative foods, bending or stooping and physical activity known to provoke reflux may all be helpful. Small meals and not eating late at night as well as elevating the head of the bed may be useful. Alcohol and drugs may be provocative in some patients. These include anticholinergics, calcium channel blockers, bisphosphonates, theophylline, nonsteroidal anti-inflammatory drugs and aspirin. As many elderly patients as well as those with chronic disease take such medication, it is common to encounter GORD as a comorbid condition necessitating concurrent antireflux therapy. The benefits of smoking cessation and weight loss on GORD are dubious, however, they should be encouraged for reasons related to general health and wellbeing.

Pharmacological

Treatment depends on the severity and chronicity of the symptoms and is not determined by the absence of oesophagitis. Proton pump inhibitors are more effective in treating GORD and in promoting resolution of symptoms than H2 antagonists. However, there is still a place for over-the-counter antacids or H2 receptor antagonists for patients with mild intermittent symptoms.

In the past, the recommendation was for ‘step up’ therapy starting with antacid and working up to a PPI. This has now changed, so that ‘step down’ therapy is recommended for patients with significant symptoms who fulfil the criteria for reflux disease (Table 1).

The step down approach requires commencement with a PPI as the initial therapeutic intervention at optimal therapeutic doses. Proton pump inhibitors given once per day in the morning are highly effective in about three-quarters of patients and escalation to twice per day may be effective in refractory cases.

Treatment with this approach usually lasts 4–8 weeks. Aggressive therapy is then reduced to maintenance doses, trial of withdrawal of therapy and/or subsequently to H2 antagonists or antacids if the symptoms are very mild or intermittent. Failure of complete resolution should result in endoscopic assessment. Alarm symptoms will also require immediate endoscopy.

Ongoing therapy and relapse management

Relapse occurs in about 70% of all patients within 6 months of stopping a successful 4–8 week course of PPI therapy. Those with more than mild oesophagitis almost inevitably relapse and so probably should not have a trial of withdrawal of therapy. Those with only mild symptoms may benefit from intermittent treatment that may be used on demand and titrated against the severity of symptoms. Some may find that H2 antagonists are sufficient to control symptoms.

Choice of drug

Proton pump inhibitors are the drugs of first choice, given initially once in the morning at standard dose (omeprazole 20 mg, pantoprazole 40 mg, lansoprazole 30 mg, rabeprazole 20 mg). The majority of patients respond well to this regimen. Esomeprazole 40 mg has demonstrated superiority over other PPIs in patients with severe oesophagitis. In the minority of patients who respond inadequately to once per day therapy in the morning, an additional dose before the evening meal will usually succeed.

The role of motility stimulants such as domperidone (Motilium) and metoclopramide (Maxalon) remains unclear. Cisapride (Prepulsid) was efficacious, but has been removed from sale because of cardiotoxicity.

Surgical treatment

Patients should be carefully selected for surgery as medication will control the symptoms of GORD in the vast majority of patients. Surgery may be indicated where

there has been failure to control symptoms with adequate doses over a period of many months, where side effects of treatment have occurred, or where the patient is averse to taking long term medication. It is essential to choose an experienced surgeon as the outcomes of surgery are directly related to the level of experience.

Laparoscopic fundoplication is now the operation of choice and has low morbidity and mortality rate of 0.1–0.3%.⁹ Around 90% of patients will achieve a 10 year remission of symptoms.⁹ Complications of surgery include dysphagia for some solids, feeling full after small meals, and flatulence. These are minimised in expert hands.

Complications of GORD

The most significant complications are stricture with resultant dysphagia, ulcerative oesophagitis, and Barrett's oesophagus with its attendant risk of adenocarcinoma. These complications, although less commonly seen in general practice today, still emphasise the need to treat GORD aggressively.

Barrett's oesophagus

This is a long term complication of chronic GORD and can only be diagnosed at endoscopy. In this condition, the stratified squamous epithelium that normally lines the lower end of the oesophagus is replaced by metaplastic columnar epithelium which is a risk factor for adenocarcinoma of the oesophagus, the incidence of which has increased 4-fold in the past 20 years.¹³

If the columnar epithelium extends more than 3 cm above the gastro-oesophageal junction it is called 'long segment Barrett's', if it extends less than 3 cm it is called 'short segment Barrett's'. In patients undergoing endoscopy for GORD, long segment Barrett's is found in 3–5%, and short segment Barrett's in 10–15%.¹⁴ The risk of developing cancer is less in short segment Barrett's. The true incidence in primary care patients with typical reflux disease is between 1.5–5.0%; much less than estimates derived from specialist centres.¹⁵

The role of various forms of medical treatment remains unclear and the only clear strategy is regular endoscopic surveillance according to the guidelines produced by the American College of Gastroenterology.¹⁶ The frequency of surveillance may vary from 1–5 years depending on the risk. If high grade dysplasia is confirmed on two endoscopies with expert pathologist reports, then submucosal ablation, local resection or oesophagectomy may be recommended. Ongoing management of patients with Barrett's oesophagus should be carried out under specialist guidance.

Conclusion

Gastro-oesophageal reflux disease has a negative effect on quality of life and in most patients will be a chronic and relapsing condition. Gastro-oesophageal reflux disease is a clinical diagnosis and endoscopy is reserved for cases where there are alarm symptoms (such as dysphagia, haematemesis or weight loss), diagnostic uncertainty, treatment failure, or assessment of complications. A 'step down' approach to pharmacological treatment is recommended, commencing with 4–8 weeks of a PPI.

Summary of important points

- Symptoms of reflux occur in 10–20% of adults on at least a weekly basis.
- Endoscopic evidence of reflux oesophagitis is present in only 30–45% of these patients.
- Treatment is therefore based on symptoms and endoscopy is indicated where alarm symptoms are present or where there has been inadequate control of symptoms by medical means.
- Step down therapy is the treatment of choice starting with the most effective dose of PPIs usually for a 4–8 week period.
- Long term treatment may be necessary in those patients with more than mild oesophagitis or those with recurrent symptoms.
- Surgery may be indicated where medical treatment has failed and usually involves laparoscopic fundoplication.

Resource

National Prescribing Service. NPS News 33. Proton pump inhibitors. April 2004. Available at: www.nps.org.au/site.php?content=html/news=resources/NPS_News/news33.

Conflict of interest: Professor John Dent serves as a consultant to AstraZeneca, manufacturer of PPIs.

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