

## Review Article: Guidelines for the Diagnosis and Management of Gastroesophageal Reflux Disease

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### Abstract

Gastro Esophageal Reflux Disorders (GERD) are a group of conditions where gastric contents are refluxed into the esophagus and produce troublesome symptoms mainly heartburn and regurgitation. It may present with complications as well. Atypical presentation is also not very uncommon. Proper diagnosis and differentiation from other diseases can ensure appropriate treatment and thus better quality of life. Unlike many other diseases, diagnosis of GERD is relatively straightforward through symptomatology and a few investigations, even though few cases require special and technologically newer modalities of investigative tools for confirmation. Options for treatment are many and mostly medical; surgical and other methods are very rarely needed to pose better life. New molecules are recently being used with variable promising results and need exploration. [J Shaheed Suhrawardy Med Coll, 2013;5(2):30-33]

**Key words:** GERD, Epidemiology, diagnosis, management.

### Introduction

GERD may be defined as symptoms or complications resulting from the reflux of gastric contents into the esophagus or beyond, into the oral cavity (including larynx) or lung. GERD can be further classified as the presence of symptoms without erosions on endoscopic examination (nonerosive disease or NERD) or GERD symptoms with erosions present (ERD)<sup>1</sup>.

### Role of Natural Anti-reflux Mechanisms

Despite having a highly efficient barrier, a normal individual experiences some sort of "physiological" gastroesophageal reflux. From the esophageal side, esophageal clearance is promoted by peristalsis and salivary production. A valve mechanism exists between the esophagus and the stomach, formed by the lower esophageal sphincter (LES), the diaphragm, the His angle, the Gubaroff valve and the phrenoesophageal membrane<sup>2</sup>.

### Symptoms and Epidemiology

A systematic review found the prevalence of GERD to be 10–20% of the Western world while lower prevalence in Asia have been reported<sup>3</sup>. Clinically troublesome heartburn is seen in about 6% of the population<sup>4</sup>. Regurgitation was reported in 16% in the systematic review. Chest pain may be a symptom of GERD, even as the presenting symptom<sup>5,6</sup>. Distinguishing cardiac from non-cardiac chest pain is required before considering GERD as a cause of chest pain. Although the symptom of dysphagia can be associated with uncomplicated GERD, its presence warrants investigation for a potential complication including an underlying motility disorder, stricture, ring, or malignancy<sup>4</sup>. Chronic cough, asthma, chronic laryngitis, other airway symptoms are not uncommon in GERD. Atypical symptoms including dyspepsia, epigastric pain, nausea, bloating, and belching may be indicative of GERD but overlap with other conditions.

A systematic review found that ~38% of the general popu-

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lation complained of dyspepsia. Dyspepsia was more frequent in GERD patients than those without. These patients were at risk for a new diagnosis of GERD. Epigastric pain, early satiety, belching and bloating were more likely to respond to a PPI therapy compared with nausea. Overall, these symptoms can be considered to be associated with GERD if they respond to a PPI trial<sup>7</sup>.

There is a definite relationship between GERD and obesity. Several meta-analysis suggest an association between body mass index (BMI), waist circumference, weight gain and the presence of symptoms and complications of GERD including ERD and Barrett's esophagus<sup>8,9</sup>.

### The Diagnosis of GERD

The diagnosis of GERD is made using some combination of symptom presentation, objective testing with endoscopy, ambulatory reflux monitoring, and response to anti secretory therapy. The symptoms of heartburn and regurgitation are the most reliable for making a presumptive diagnosis based on history alone; however, these are not as sensitive as most believe. A systematic review of seven studies found the sensitivity of heartburn and regurgitation for the presence of erosive esophagitis to be 30-76 % and the specificity from 62-96 %<sup>10</sup>. Empiric PPI therapy (a PPI trial) is a reasonable approach to confirm GERD when it is suspected in patients with typical symptoms. But it has some limitations.

Non-cardiac chest pain has often been associated with the presence of GERD, and can be the presenting symptom. A meta-analysis found a high probability that non-cardiac chest pain responds to aggressive acid suppression<sup>11</sup>. However, a more recent systematic review suggested that the response of non-cardiac chest pain to a PPI trial was significantly higher than placebo in patients with objective evidence of GERD (ERD on endoscopy and / or abnormal pH monitoring)<sup>12</sup>.

Dysphagia has historically been an alarm symptom or warning sign and an indication for early endoscopy to rule out a GERD complication. Respiratory symptoms have been associated with GERD, based on retrospective case-control studies. In addition, dental erosions, erosion of dental enamel, sinusitis, chronic laryngitis and voice disturbance have similarly been associated with GERD.

The endoscope has long been the primary tool used to evaluate the esophageal mucosa in patients with symptoms suspected due to GERD. Findings of GERD include erosive esophagitis, strictures, and a columnar lined esophagus ultimately confirmed to be Barrett's esophagus. However, the vast majority of patients with heartburn and regurgitation will not have erosions (or Barrett's) limiting upper endoscopy as an initial diagnostic test in patients with suspected GERD<sup>13</sup>. The addition of esophageal biopsies as an adjunct to an endoscopic examination has been re-emphasized because of the increased prevalence of eosinophilic esophagitis (EoE).

Esophageal manometry is of limited value in the primary diagnosis of GERD. Manometry should be used to aid in placement of transnasal pH-impedance probes and is

recommended before consideration of antireflux surgery primarily to rule out achalasia or severe hypomotility (scleroderma-like esophagus). Ambulatory reflux monitoring (pH or impedance-pH) is the only test that allows for determining the presence of abnormal esophageal acid osure, reflux frequency, and symptom association with reflux episodes. The relationship between H. pylori infection and GERD is controversial. Prevalence studies suggest that H. pylori infection is inversely associated with reflux esophagitis in some populations<sup>14</sup>. Eradication studies also suggest that H. pylori infection is protective with respect to GERD<sup>14</sup>.

GERD is frequent during pregnancy, manifests as heartburn, and may begin in any trimester. One study found onset of 52 % in the first trimester, 40 % in the second trimester, and 8 % in the third trimester<sup>15</sup>. Maternal age is inversely correlated with heartburn. Race, pre-pregnancy BMI, and weight gain in pregnancy do not correlate with the onset of heartburn. Despite its frequent occurrence during pregnancy, heartburn usually resolves after delivery<sup>16</sup>.

### Management of GERD

#### Recommendations

1. Weight loss is recommended for GERD patients who are overweight or have had recent weight gain.
2. Head of bed elevation and avoidance of meals 2-3 h before bedtime should be recommended for patients with nocturnal GERD
3. Routine global elimination of food that can trigger reflux (including chocolate, caffeine, alcohol, acidic and / or spicy foods) is not recommended in the treatment of GERD.
4. An 8-week course of PPIs is the therapy of choice for symptom relief and healing of erosive esophagitis. There are no major differences in efficacy between the different PPIs.
5. Traditional delayed release PPIs should be administered 30 – 60 min before meal for maximal pH control. Newer PPIs may offer dosing flexibility relative to meal timing.
6. PPI therapy should be initiated at once a day dosing, before the first meal of the day. For patients with partial response to once daily therapy, tailored therapy with adjustment of dose timing and / or twice daily dosing should be considered in patients with night-time symptoms, variable schedules, and / or sleep disturbance.
7. Non-responders to PPI should be referred for evaluation.
8. In patients with partial response to PPI therapy, increasing the dose to twice daily therapy or switching to a different PPI may provide additional symptom relief.
9. Maintenance PPI therapy should be administered for GERD patients who continue to have symptoms after PPI is discontinued and in patients with complications including erosive esophagitis and Barrett's esophagus For patients who require long-term PPI therapy, it should be administered in the lowest effective dose, including on demand or intermittent therapy.
10. H<sub>2</sub>-receptor antagonist therapy can be used as a maintenance option in patients without erosive disease if patients experience heart burn relief. Bedtime H<sub>2</sub> RA therapy can be

added to daytime PPI therapy in selected patients with objective evidence of night-time reflux if needed but may be associated with the development of tachyphylaxis after several weeks of usage.

11. Therapy for GERD other than acid suppression, including prokinetic therapy and / or baclofen, should not be used in GERD patients without diagnostic evaluation.

12. There is no role for sucralfate in the non-pregnant GERD patient.

13. PPIs are safe in pregnant patients if clinically indicated.

### Surgical Options for GERD

#### Recommendations

1. Surgical therapy is a treatment option for long-term therapy in GERD patients.

2. Surgical therapy is generally not recommended in patients who do not respond to PPI therapy.

3. Preoperative ambulatory pH monitoring is mandatory in patients without evidence of erosive esophagitis. All patients should undergo preoperative manometry to rule out achalasia or scleroderma-like esophagus.

4. Surgical therapy is as effective as medical therapy for carefully selected patients with chronic GERD when performed by an experienced surgeon.

5. Obese patients contemplating surgical therapy for GERD should be considered for bariatric surgery. Gastric bypass would be the preferred operation in these patients.

6. The usage of current endoscopic therapy or transoral incisionless fundoplication cannot be recommended as an alternative to medical or traditional surgical therapy.

### Alternative Treatments for GERD<sup>17</sup>

Current conventional approaches to GERD management rely extensively on the use of PPIs. While these medications can be effective in treating non-erosive GERD, their utility for many GERD patients is less evidence-based. While older medications, like raft-forming agents based upon alginates, pectins, and glycyrrhizin analogs have been proven to be effective and safe in mild-to-moderate disease. Melatonin is a potentially attractive alternative therapy for GERD. It might directly address several underlying mechanisms (oxidative stress, inflammation, motility, and gastrointestinal signaling). The use of compounds such as curcumin and quercetin has not been explored in human GERD trials, but the existing *in vitro* and animal data suggest these compounds warrant further investigation. The botanical combination Iberogast has shown efficacy in existing trials and has a low side effect profile. Evidence suggests acupuncture might play a therapeutic role in combination with PPIs for treatment of GERD. There is insufficient evidence to make any definitive dietary recommendations for persons with GERD. Limited evidence suggests potential benefits from consuming a low-carbohydrate diet.

### Conclusion:

GERD is a well recognized entity in the western world for

long time because of their common habitual use of alcohol and have been thought to be less prevalent in our country. But due to change of life style and advent of modern investigative facilities GERD has been proved to be also our problem. Proper evaluation of patients with abdominal and chest symptoms may reveal to be a case of GERD. Life style modification and PPI therapy are the main stay of treatment for majority of cases. Few patients may need endoscopic or surgical intervention for relief of symptoms. Only a few of GERD patients showing Barrett's on endoscopic biopsy needs to be followed up periodically to exclude emergence of adenocarcinoma.

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