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Medical Guidelines

Clinical Guidelines for the Diagnosis and Management of GERD

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Introduction

Gastro esophageal reflux disease (GERD) is a condition in which gastroesophageal reflux (GER) causes esophageal mucosal injuries, annoying symptoms, or both. It is classified into Reflux Esophagitis with esophageal mucosal injuries and Non-Erosive Reflux Disease with symptoms alone.

Pathophysiology of GERD

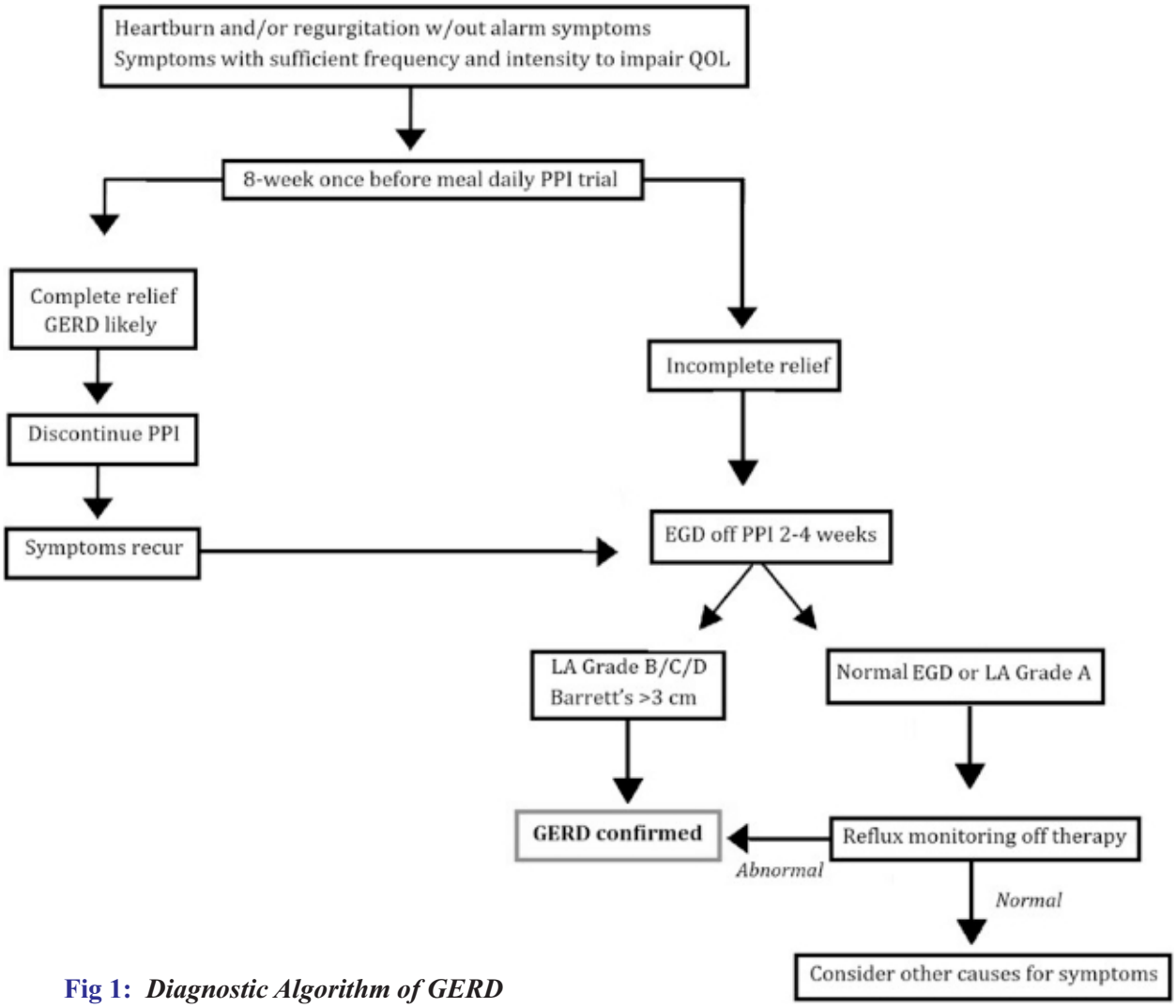

Fig 1: ***Diagnostic Algorithm of GERD***

The pathophysiology of GERD includes a poorly functioning esophago-gastric junction; the anti-reflux barrier composed of the Lower Esophageal Sphincter (LES) and crural diaphragm, coupled with impaired esophageal clearance and alterations in esophageal mucosal integrity.

Clinical Features

Typical symptoms include heartburn and regurgitation. Chest pain, indistinguishable from cardiac pain, may present in conjunction with heartburn and regurgitation as the only symptom. Extra-esophageal manifestations include laryngeal and pulmonary symptoms such as hoarseness, throat clearing, and chronic cough and conditions such as laryngitis, pharyngitis, and pulmonary fibrosis. It also has been proposed that GERD might exacerbate asthma.

Diagnosis of GERD

There is no gold standard for the diagnosis of GERD. Thus, the diagnosis is based on a combination of symptom presentation, endoscopic evaluation of esophageal mucosa, reflux monitoring, and response to therapeutic intervention.

Most consensus statements and guidelines advocate a 2 weeks trial of therapy with a PPI as a diagnostic "test" in patients with the typical symptoms of heartburn and regurgitation, with the underlying assumption that a PPI response establishes the diagnosis of GERD.

Upper GI endoscopy

It is the most widely used objective test for evaluating the esophageal mucosa. For patients with GERD symptoms who also have alarming symptoms such as dysphagia, weight loss, bleeding, vomiting, and/or anemia, endoscopy should be performed as soon as feasible. The endoscopic findings of Erosive Esophagitis (EE) and Barrett's esophagus are specific for the diagnosis of GERD. The Los Anglus classification of EE, a most widely used and validated scoring system, concluded that LA grade A EE is not sufficient for a definitive diagnosis of GERD because it is not reliably differentiated from normal. LA grade B EE can be diagnostic of GERD in the presence of typical GERD symptoms and PPI response, whereas LA grade C is virtually always diagnostic of GERD. In outpatients, LA grade D EE is a manifestation of severe GERD, but LA grade D EE

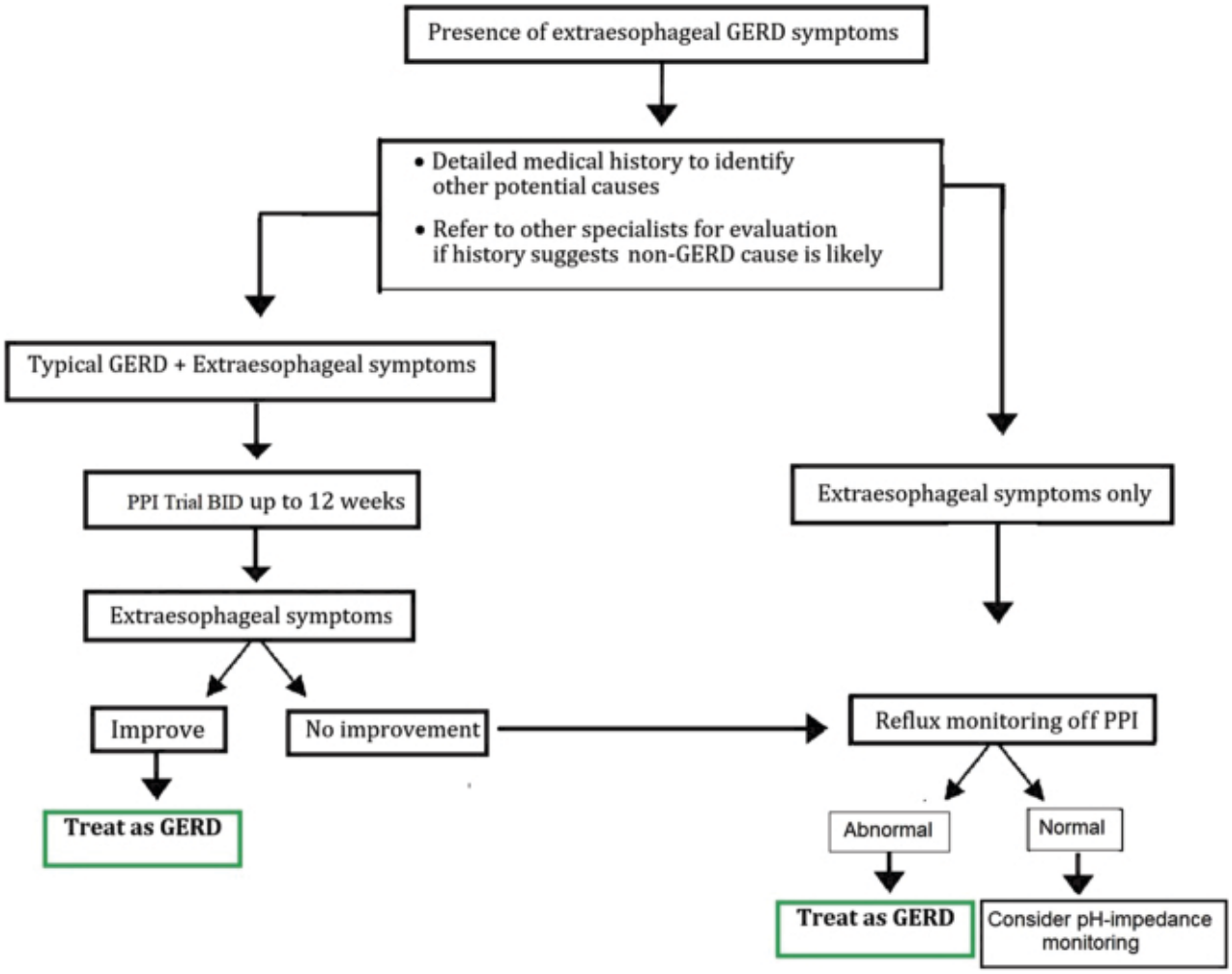

Fig 2: *Diagnostic algorithm for extraesophageal GERD symptoms*

might not be a reliable index of GERD severity in hospitalized patients. The finding of any Barrett's esophagus segment 3cm with intestinal metaplasia on biopsy is diagnostic of GERD and obviates the need for pH testing merely to confirm that diagnosis. In patients with LA grade C and D EE, endoscopy is recommended after PPI treatment to ensure healing and to evaluate for Barrett's esophagus, which can be difficult to detect when severe EE is present. For patients having endoscopy for typical GERD symptoms, normal mucosa is the most common finding. Other findings may include erosive and non-erosive esophagitis.

Esophageal High Resolution Manometry

It can be used to assess motility abnormalities associated with GERD, but HRM is not alone a diagnostic test for GERD. Weak lower esophageal sphincter (LES) pressure and ineffective esophageal motility often accompany severe GERD, but no manometric abnormality is specific for GERD. For esophageal impedance-pH monitoring, HRM is used to locate the LES for positioning of transnasal pH-impedance catheters.

Ambulatory reflux monitoring

(pH or impedance-pH) allows for assessment of esophageal acid exposure to establish or refute a diagnosis of GERD and for correlating symptoms with reflux episodes using the symptom index (SI) or symptom association probability (SAP). T

Barium radiography

It should not be used solely as a diagnostic test for GERD. The presence of reflux on a barium esophagram or upper GI series has poor sensitivity and specificity for GERD when compared with pH testing. The finding of barium reflux above the thoracic inlet with or without provocative maneuvers (including the water siphon test) somewhat increases the sensitivity for reflux, but not sufficiently for barium esophagram to be recommended as a diagnostic test for GERD

Diagnosis of GERD in pregnancy

Approximately two-thirds of pregnant women experience heartburn, which can begin in any trimester. Most patients do not have a previous diagnosis of GERD, although a history of GERD may increase the likelihood of GERD occurring during pregnancy. Pregnancy and the amount of weight gain during pregnancy are risk factors for frequent GERD symptoms 1 year after delivery. Usual presenting symptom is heartburn. Despite its frequent occurrence during pregnancy, heartburn usually resolves after delivery. Diagnosis of GERD is almost always symptom-based. Endoscopy and pH monitoring are rarely needed.

Management of GERD

requires a multifaceted approach, taking into account the symptom presentation, endoscopic findings, and likely physiological abnormalities.

Diet and lifestyle changes Common recommendations include weight loss for overweight patients, elevating the head of the bed, tobacco and alcohol cessation,

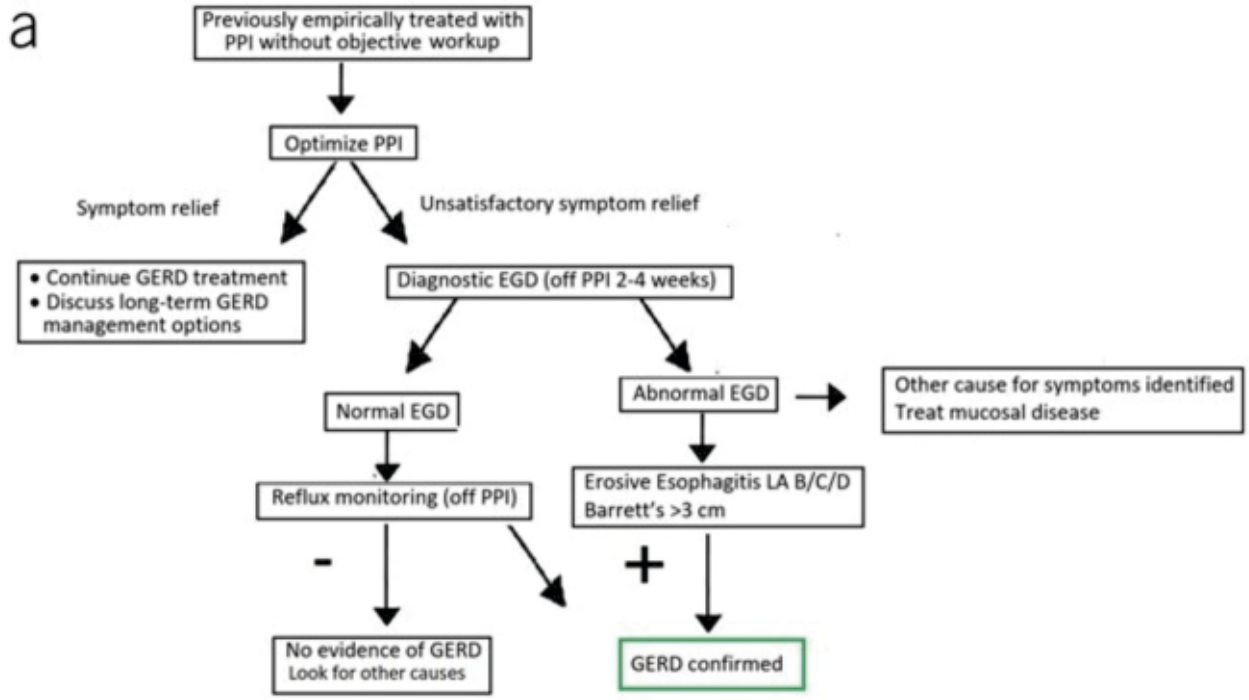

Fig 3(a): Management algorithm of symptoms suspected because of GERD incompletely responsive to PPIs, previously empirically treated with PPI without objective workup.

avoidance of late night meals and bedtime snacks, staying upright during and after meals, and cessation of foods that potentially aggravate reflux symptoms such as coffee, chocolate, carbonated beverages, spicy foods, acidic foods such as citrus and tomatoes, and foods with high fat content.

Proton pump inhibitors (PPIs) are the most commonly prescribed medication based on ample data demonstrating consistently superior heartburn and regurgitation relief, as well as improved healing compared with H2RAs.Usual treatment lasts for 8-12weeks. Usual used agents are omeprazole,pantoprazole, lansoprazole, omeprazole, esomeprazole, rabeprazole and dexlansoprazole.

H2RA taken at bedtime Medical options for patients with GERD with incomplete symptom response on PPI therapy are limited. The addition of bedtime H2RA has been suggested for patients on PPIs with persistent nocturnal symptoms.

Prokinetics There are limited data on the use of prokinetic agents for patients with GERD. Metoclopramide has been shown to increase LES pressure, enhance esophageal peristalsis, and augment gastric emptying.

Baclofen a GABA B agonist, reduces the transient LES relaxations that enable reflux episodes. Baclofen decreases the number of postprandial acid and nonacid reflux events, nocturnal reflux activity, and belching episodes (75–77). A trial of baclofen at a dosage of 5–20 mg 3 times a day can be considered in patients with objective documentation of continued symptomatic reflux despite optimal PPI therapy.

Sucralfate is a mucosal protective agent, but few data document its efficacy in GERD. Sucralfate is largely unabsorbed and has no systemic toxicity. There is little to recommend for this agent in GERD outside of pregnancy.

Treatment of GERD during pregnancy

It has been recommended that treatment of GERD during pregnancy should start with lifestyle modifications. When lifestyle modifications fail, antacids (aluminum-, calcium-, or magnesium-containing), alginates, and sucralfate are the first-line therapeutic agents. All histamine H2- blockers are FDA category B, and all PPIs are FDA category B except omeprazole, which is FDA category C.

Surgery Antireflux surgery has been used to treat patients with extraesophageal GERD symptoms, but outcomes is inferior to those of antireflux surgery for patients with traditional GERD symptoms. fundoplication especially Nissen fundoplication, is widely regarded as the "gold standard" among the antireflux procedures for its efficacy in improving the physiologic parameters of GERD such as LES pressure and esophageal acid exposure time. 1. We recommend weight loss in overweight and obese patients for improvement of GERD symptoms (strong recommendation, moderate level of evidence).

Summary of Management Recommendation

- We suggest avoiding meals within 2–3 hours of bedtime (conditional recommendation, low level of evidence).
- We suggest avoidance of tobacco products/ smoking in patients with GERD symptoms (conditional recommendation, low level of evidence).
- We suggest avoidance of "trigger foods" for GERD symptom control (conditional recommendation, low level of evidence).
- We suggest elevating head of bed for nighttime GERD symptoms (conditional recommendation, low level of evidence).
- We recommend treatment with PPIs over treatment with histamine-2-receptor antagonists (H2RA) for healing EE (strong recommendation, high level of evidence).
- We recommend treatment with PPIs over H2RA for maintenance of healing from EE (strong recommendation, moderate level of evidence).
- We recommend PPI administration 30–60 minutes before a meal rather than at bedtime for GERD symptom control (strong recommendation, moderate level of evidence).
- For patients with GERD who do not have EE or Barrett's esophagus, and whose symptoms have resolved with PPI therapy, an attempt should be made to discontinue PPIs or to switch to on-demand therapy in which PPIs are taken only when symptoms occur and discontinued when they are relieved (conditional recommendation, low level of evidence).
- For patients with GERD who require maintenance therapy with PPIs, the PPIs should be administered in the lowest dose that effectively controls GERD symptoms and maintains healing of reflux esophagitis (conditional recommendation, low level of evidence).
- We recommend against routine addition of medical therapies in PPI nonresponders (conditional recommendation, moderate level of evidence).
- We recommend maintenance PPI therapy indefinitely or antireflux surgery for patients with LA grade C or D esophagitis (strong recommendation, moderate level of evidence).
- We do not recommend baclofen in the absence of

objective evidence of GERD (strong recommendation, moderate level of evidence).

- We recommend against treatment with a prokinetic agent of any kind for GERD therapy unless there is objective evidence of gastroparesis (strong recommendation, low level of evidence).
- We do not recommend sucralfate for GERD therapy except during pregnancy (strong recommendation, low level of evidence).
- We suggest on-demand or intermittent PPI therapy for heartburn symptom control in patients with NERD (conditional recommendation, low level of evidence).

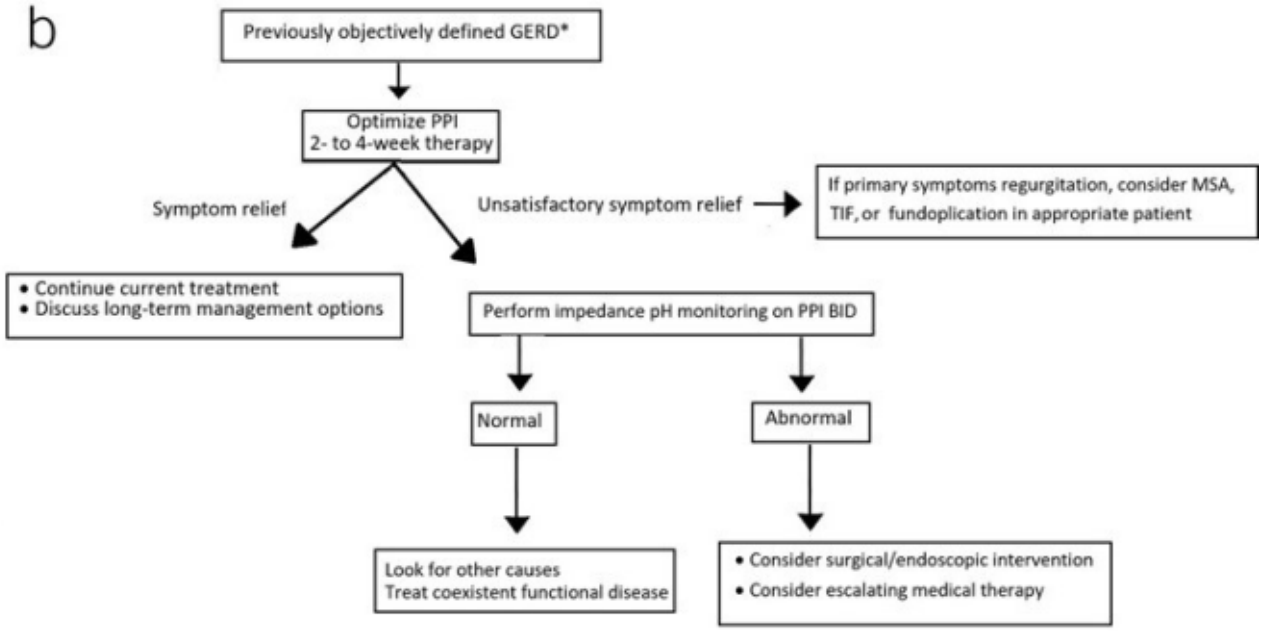

Fig 3(b): *Management algorithm of symptoms suspected because of GERD incompletely responsive to PPIs in patients previously objectively defined as GERD.*

Acknowledgments:

Sources

1. ACG Clinical Guideline for the Diagnosis and Management of Gastro-esophageal Reflux Disease Nov 2021.
2. Evidence-based clinical practice guidelines for gastro-esophageal reflux disease 2021 by Japanese society of Gastroenterology.