Gastroenterology

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GERD: What Should Everyone Know?

Pessorrusso, FCS[1*] and PHDMonteiro, HGG[1]

[1]Gastrointestinal Endoscopy Unit, Cancer Institute of the State of Sao Paulo (ICESP), Hospital das Clinicas HCFMUSP, Faculty of Medicine, University of Sao Paulo, Sao Paulo, Brazil

***Corresponding author:** Fernanda Cristina Simões Pessorrusso, Gastrointestinal Endoscopy Unit, Cancer Institute of the State of Sao Paulo (ICESP), Hospital das Clinicas HCFMUSP, Faculty of Medicine, University of Sao Paulo, Sao Paulo, Brazil, E-mail: pessorrusso.fcs@gmail.com

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1. Introduction

Gastroesophageal Reflux Disease (GERD) is characterized as a condition developed due to gastric reflux into the esophagus or nearby structures such as the oropharynx and the respiratory tract. According to the Montreal Consensus, GERD develops when the reflux of stomach contents causes troublesome symptoms and/or complications, which means mild symptoms two or more days a week, or moderate to severe symptoms more than one day a week [1]. It is one of the three most common complaints to the gastroenterologist, and it is also the main cause of chest pain of esophageal origin.

2. Etiology

Regurgitation and heartburn can be physiological, pathological, or a symptom [2]. Physiologic reflux occurs in supine position, after meals and happens due to transient Lower Esophageal Sphincter (LES) relaxation. In 60-70% of cases, reflux arises from insufficiency of the LES, which is hypotonic or performs transient relaxations often. GERD is one of the most prevalent gastrointestinal pathologies in the world, affecting all ages and genders [3]. Risk factors concerning LES hypotonia are obesity, hiatal hernias and pregnancy. Some medications may also lead to relaxation of the LES and should be reviewed if the patient reports uncomfortable symptoms. Hiatal hernias deserve special attention in GERD etiology, as they are anatomical changes that cause LES relaxation permanently until they are resolved, most often by invasive procedure. Continuous contact of the esophageal mucosa with refluxed gastric contents, associated with failure of esophageal clearance mechanisms and even changes in intrinsic resistance of the esophageal epithelium may lead to reflux disease itself, which may lead to often symptoms and complications.

3. Epidemiology

Prevalence of reflux symptoms and GERD is rising over decades, fact that can be explained by population aging and increased obesity, both considered as risk factors for GERD [4]. The disease in North America affects 18.1% to 27.8% of population, and 9.8% to 25.9% in Europe [5]. East Asia presents the lower GERD prevalence, below 10%.5 It is also known that complications of GERD such as Barrett's esophagus and Esophageal Adenocarcinoma is more prevalent in male sex, white race, elderly and obese patients [4, 6].

4. Clinical Findings and Initial Assessment

The main symptoms of GERD are regurgitation and heartburn. Other symptoms can be divided into esophageal and extra esophageal symptoms, such as chest pain, chronic cough, difficult to control asthma, epigastric pain and dental erosions. These problems can affect the patient's quality of life, including psychological issues and daily activities.

The diagnosis of GERD is clinical at first, and a complete anamnesis should be performed, in which the patient will comment on habits and addictions, presence or absence of regurgitation and heartburn. Once the diagnosis is made, and if is there any sign of serious complications as dysphagia, weight loss or hematemesis, there is no need for laboratory or imaging tests. In those patients it's possible to start a therapeutic test with double dose Proton Pump Inhibitors (PPIs) for a period of 8 to 12 weeks, associated with changes in lifestyle and diet. Complementary examinations shall be performed in cases of refractory drug treatment or when there is diagnostic doubt to exclude

differential diagnoses.

5. Diagnostic and Management

In the need to perform examinations, the gold standard is pH-impedance, but the most commonly performed are upper digestive endoscopy (EGD) and 24-hour pH-metry. EGD is an mucosal examination that can identify the changes caused by reflux, based on esophagitis classification. The examination can also visually identify the presence of hiatal hernia and stenosis caused by chronic in-

flammation. The upper endoscopy also allows esophageal biopsies, mainly to rule out or confirm differential diagnoses. The 24-hour phmetry is performed by placing a thin catheter with electrodes in the esophagus that are capable of measure pH variation. Reflux is considered pathological when the intraesophageal pH remains <4 for more than 4% of the total duration of the exam. The main limitation of this test is not to evaluate the presence of non-acid reflux. This exam has high specificity and medium sensibility regarding the acid reflux [2, 6]. Esophageal pH-impedance can both identify presence of acid and non-acid reflux, as well as gas reflux. As its more expensive, it is preferred for patients with persistent symptoms even in the presence of antisecretory therapy, clinical or endoscopic suspicion of gastroesophageal reflux not confirmed by conventional ph-metry and patients with predominantly postprandial GERD symptoms [2].

6. Treatment Options

Treatment is performed from diagnosis with therapeutic testing using double-dose PPIs for 8 to 12 weeks and behavioral changes. Other widespread medications are histamine H2-receptor blockers, prokinetics and antacids [7-9]. Surgical interventions are indicated for patients with severe esophageal injury, incomplete improvement with clinical treatment, long-term or persistent symptoms at an early age, and respiratory manifestations [8, 10]. It aims to restore the valve mechanism. The most commonly used technique is hiatoplasty associated with fundoplication, which consists in closing the diaphragmatic hiatus in order to repositioning the stomach in the abdominal cavity and making a 360° valve with the stomach itself to prevent reflux [10,11]. The continuous advance in endoscopic therapy techniques enable GERD treatment in a minimally invasive manner. They aim to reestablish lower esophageal sphincter tone by suturing, radiofrequency energy, or by injecting biocompatible polymers. These procedures have good results in patients' quality of life, besides having the benefit of being minimally invasive when compared to surgery [12, 13].

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