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Research Article

Association of Laryngopharyngeal Symptoms and Signs with Gerd and its Response to Antireflux Therapy

Pramod Chirakkal* and Arunachalam Ravikumar

Department of ENT, Head and Neck Surgery, Sri Ramachandra University, Sri Ramachandra Medical College and Research Institute, Chennai, Tamil Nadu, India

***Corresponding Author:** Pramod Chirakkal, Department of ENT, Head and Neck Surgery, Sri Ramachandra University, Sri Ramachandra Medical College and Research Institute, Chennai, Tamil Nadu, India.

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Abstract

Objectives: To determine the incidence of laryngopharyngeal symptoms and signs in GERD and assess the response to antireflux therapy.

Study Group: 30 patients will be selected for this study based on the inclusion and exclusion criteria formulated and will be evaluated with complete medical, clinical examination, videolaryngoscopic evaluation, Upper Gastro Intestinal endoscopy with biopsy and 24- hour pH monitoring (pre and post antireflux therapy).

Control Group: 10 adult healthy volunteers, from both sexes without any risk factor and without any laryngopharyngeal symptoms and symptoms suggestive of any dyspeptic disorders will be selected as controls.

Materials and Methods: The study group will be subjected to 6 weeks of anti-reflux precautions and antireflux therapy. Those whose laryngeal symptoms had improved or resolved will be again subjected to videolaryngoscopy, Upper Gastro Intestinal endoscopy with biopsy and 24 hr pH monitoring after 6 weeks of therapy. The same patients will be followed up for 6 months.

Results: The most frequent laryngopharyngeal symptoms with GERD were found to be difficulty in swallowing (83%), feeling of lump in the throat (73%) and burning sensation of throat (60%).

Conclusion: Gastro esophageal reflux disease (GERD) is a common disease, which impairs quality of life. Laryngopharyngeal symptoms are reliable predictors of GERD. The data-statistical analysis (Pearson Chi-Square test) used to support the findings of this study are included within the article.

Keywords: GERD; Antireflux; UGIE; *H. Pylori*

Introduction

Gastro esophageal reflux disease (GERD) describes the clinical manifestations of reflux of gastric contents and the associated of symptoms and patterns of tissue injury. Although its exact prevalence is difficult to determine, there is no doubt that GERD is the most common esophageal disease and probably among the most prevalent conditions seen in the primary care settings. GERD can lead to chronic symptoms and can have detrimental impact on quality of life. Patients can present with laryngopharyngeal symptoms with or without esophageal symptoms. Because of this wide clinical spectrum, the diagnostic evaluation of GERD can be difficult and challenging. The evaluation begins with thorough medical history focusing on laryngopharyngeal symptoms. To understand fully the spectrum of GERD, testing modalities like video laryngoscopy, upper gastrointestinal endoscopy with biopsy and 24 hour

pH monitoring are useful. Even though antireflux therapy has been used clinically for many years, it has not been assessed objectively.

Objective of the Study

Therefore, the objectives of this prospective randomized case control study were to determine the incidence of laryngopharyngeal symptoms and signs with GERD and their response to antireflux therapy.

Materials and Methods

30 patients were selected for this study based on the inclusion and exclusion criteria formulated and were evaluated after informed consent with complete medical history, clinical examination, videolaryngoscopic evaluation, upper gastrointestinal endoscopy with biopsy and 24-hour pH monitoring. 10 adult healthy volunteers, from both sexes without any risk factor and without any laryngopharyngeal symptoms and symptoms suggestive of any dyspeptic disorders were selected as controls.

Both groups underwent direct rigid videolaryngoscopic examination for careful and complete assessment of the mucosa lining of the pharynx and larynx and were evaluated for the following symptoms and signs of chronic laryngitis. The two groups also underwent upper gastrointestinal endoscopy to evaluate mucosal injury and to define the severity of esophagitis. In addition, Antral biopsy was taken for histological examination and analysis of Helicobacter pylori (H and E). In patients with *H. pylori* -positive antrum gastritis, eradication was performed by medical triple regimen with 30 mg Lansoprazole, 250 mg Clarithromycin and 500 mg Tinidazole twice daily for 14 days and then biopsy was repeated to check for eradication of *H. pylori*. All the subjects from both the control and study groups (including those who were negative for *H. pylori* and negative endoscopy findings) underwent ambulatory 24 hour single probe pH monitoring to confirm GERD. The study group was subjected to 6 weeks of anti-reflux precautions including lifestyle and dietary modifications and antireflux treatment consisting of Esomeprazole 40 mg, twice daily half an hour before breakfast and dinner. Those whose laryngopharyngeal symptoms had improved or resolved were again subjected to videolaryngoscopy, upper gastrointestinal endoscopy with biopsy and 24 hour pH monitoring after 6 weeks of therapy. The same patients were followed up for 6 months at 3 months interval with videolaryngoscopy and were questioned regarding the spectrum of their symptoms.

Statistical analysis

Pearson Chi-Square test was used for statistical analyses of the comparative studies. A P value of <0.05 was considered significant.

Results and Discussion

The term reflux (derived from the Latin words re ["back"] and fluere ["to flow"] literally means backflow. The term gastroesophageal reflex (GER) refers to the backflow of the stomach contents into the esophagus. It may be physiologic and indeed up to 50 GER episodes a day, occurring mostly after meals, is accepted as being within the normal range. Gastroesophageal reflex disorder (GERD) is a clinical term that refers to GER that is excessive and that causes tissue damage (e.g. esophagitis) and/or clinical symptoms (e.g. heartburn). It is important to note that although most patients with LPR do not have GERD, some patients do indeed have both LPR and GERD. In this study all the patients had laryngopharyngeal symptoms and signs whereas only 60% showed upper gastroesophageal signs. About 56% who were *H. pylori* positive, they were first treated with *H. pylori* eradication therapy and then were treated for their GERD symptoms and signs with anti-reflux therapy.

Laryngeal symptoms are significantly more frequent in patients with GERD. The most common laryngeal symptoms include hoarseness, chronic cough, and globus. In this study the most frequent laryngopharyngeal symptoms with GERD were difficulty in swallowing (83%), feeling of lump in the throat (73%) and burning sensation of throat (60%) and drastic reduction of these symptoms were found after antireflux therapy. When evaluated 6 months post anti reflux therapy the symptoms continued to reduce.

The laryngoscopic examination is the primary procedure for diagnosing GERD. Several signs suggestive of GERD have been shown to be present in a high percentage in asymptomatic individuals, raising questions about the diagnostic specificity of laryngoscopic examination. However, in this study, 87% of patients with laryngopharyngeal complaints had gastroesophageal related underlying cause. The prevalence of laryngopharyngeal signs attributed to study group was 100%.

Upper Gastrointestinal Endoscopy (UGIE) is the standard for documenting the presence and extent of esophagitis and excluding other etiologies for the patient's symptoms. Unfortunately, the presence of esophagitis revealed during endoscopic examination is not a constant finding in patients with suspected supraesophageal

complications of GERD and has rarely been documented in patients with reflux laryngitis. Thus, the sensitivity of endoscopy for GERD is poor, but it has excellent specificity at 90% to 95%. Endoscopy has to be performed early to diagnose complications of GERD and to rule out other entities such as infections, ulcers, cancer, or varices. In this study, on upper gastrointestinal endoscopy of 30 patients, 18 patients were found to have grade 'A' antral gastritis while the remaining 12 had normal mucosa. It was also found that only 60% of patients with GERD had positive UGI Endoscopy findings.

Like endoscopy, the role of antral biopsies in evaluating GERD has evolved over the years. Microscopic changes of reflux may occur even when the mucosa endoscopically appears normal. Therefore, the current primary indication for antral biopsies is to determine the presence of *H. pylori*. In this study, *H. pylori* was positive in 57% of the cases and therefore were subjected to *H. pylori* eradication therapy. Once, the *H. pylori* was resolved, these patients under went antireflux therapy for GERD.

Ambulatory intraesophageal pH monitoring is the standard for establishing pathologic reflux. This is the only test that records and correlates symptoms with reflux episodes over extended periods of time. In this study all the patients underwent 24hour pH monitoring before the antireflux therapy and then post anti reflux therapy. The number of patients with more than 20% was comparatively greater and the number of patients below 4% was lesser before antireflux therapy. However, this reversed after treatment, the number of patients with more than 20% reduced and the number of patients below 4% increased, proving good therapeutic result.

Selective lifestyle changes, carefully explained to the patient, should be part of the initial management plan and especially helpful in those with mild, intermittent complaints. These include head of the bed elevation, avoidance of tight fitting clothes, weight loss, restriction of alcohol and smoking, dietary changes, refraining from lying down after meals, and avoiding bedtime snacks. Indiscriminate food prohibition should be avoided but rather tailored to individual sensitivity to better promote compliance. Patients should avoid, if possible, drugs that lower LES pressure or promote localized esophagitis, such as certain bisphosphonates. All the patients in the study group were given a list of instructions for their life style modification as a part of antireflux therapy. The after effects of this are clearly demonstrated in the vast difference in the reduction of symptoms and signs of GERD.

PPIs inhibit meal stimulated and nocturnal acid secretion to a significantly greater degree than H2RAs. PPIs have superior efficiency compared with H2RAs on the basis of their ability to maintain an intragastric pH above 4 from 10 to 14 hours daily compared with approximately 6 to 8 hours daily with H2RAs.PPIs are superior in relieving heartburn symptoms in patients with severe GERD, usually within 1 to 2 weeks. Until recently, therapeutic efficiency among PPIs was similar. However, recent large studies have found the newest PPI esomeprazole 40 mg superior to omeprazole 20 mg and lansoprazole 30 mg in healing esophagitis. The therapeutic advantage is minimal with mild esophagitis and greatest with severe esophagitis. This superiority is related to higher systemic bioavailability and less interpatient variability with esomeprazole.

In this study a remarkably good therapeutic outcome occurred, because laryngopharyngeal symptoms and findings as well as UGI endoscopy findings resulting from gastroenterologic diseases resolved drastically within the study period proving the efficiency of the therapy further.

GERD usually relapses once drug therapy is discontinued, with about 80% having erosive GERD relapse after 6 - 12 months. Thus, many patients with GERD require long-term, possibly life-long, PPI therapy (Moayyedi and Talley 2006). However, a recent study on discontinuation of PPIs in long-term users found that 20% of GERD patients were able to discontinue their PPIs without development of symptoms (Bjornsson., *et al*. 2006).Therefore, in this study all the patients were compulsorily reviewed for 6 months period with 3 months interval. The results were found to be stable and no relapse was seen in any cases. The symptoms improved with each visit and findings reduced [1-15].

Conclusion

In this 2 year prospective study the incidence of laryngopharyngeal symptoms and signs with GERD and their response to anti reflux therapy was established. 87% of patients with laryngopharyngeal complaints had gastroesophageal related underlying cause. The characteristic laryngopharyngeal symptoms of GERD were difficulty in swallowing (83%), feeling of lump in the throat (73%) and burning sensation of throat (60%) (Figure 2). The significant laryngopharyngeal signs were posterior pharyngeal wall granularity (100%) and interarytenoid edema (93%) (Figure 1). On UGI Endoscopy 60% had positive endoscopic findings and 57% had *H. pylori* positive (Figure 3). At the same time 40% had negative endoscopy reflux disease (NERD) and 43% had *H. pylori* negative.

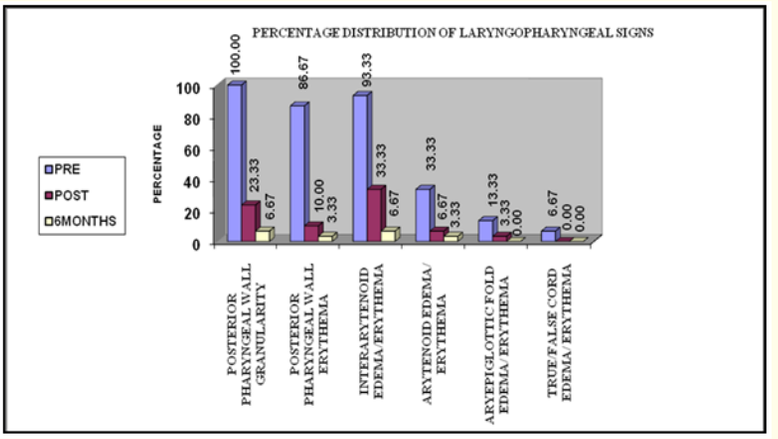

Figure 1: Percentage distribution of Laryngopharyngeal signs.

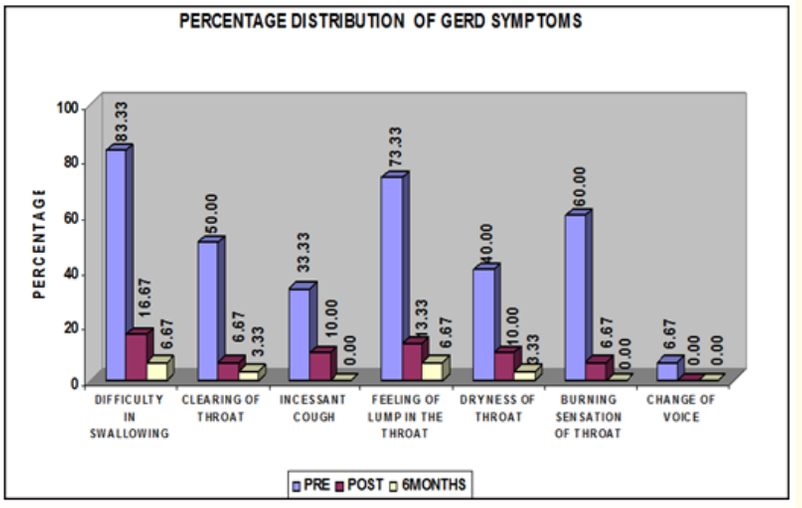

Figure 2: Percentage distribution of GERD symptoms.

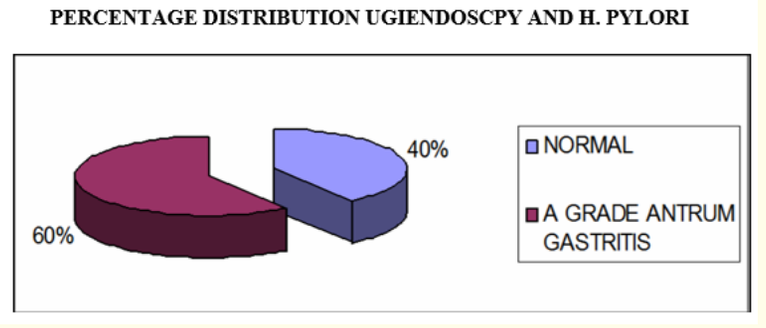

Figure 3: Percentage distribution of UGIEndoscopy findings and *H. pylori*.

All the patients underwent 24 hour pH monitoring before and after anti-reflux therapy. The response of patients with more than 20% severity was comparatively greater before therapy than after. Similarly, the number of patients below 4% increased after the antireflux therapy, provng the therapeutic efficiency. Pre and post treatment monitoring showed significant control of pH following therapy (Figure 4). The main otorhinolaryngologic findings like posterior pharyngeal wall granularity, interarytenoid edema/erythema, and posterior pharyngeal wall erythema and arytenoids edema/erythema reduced remarkably showing a good therapeutic outcome. These therapeutic results remained as such for the mean follow up period of 6 months.

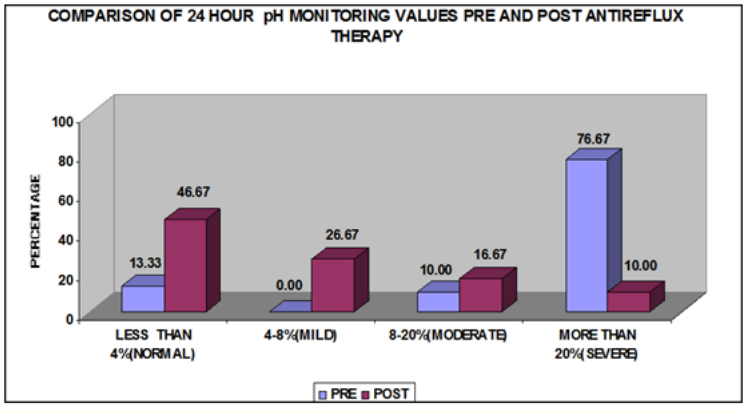

Figure 4: Comparison of pH monitoring values PRE and POST antireflux therapy.

In short, Gastro esophageal reflux disease (GERD) is a common disease, which impairs quality of life. Laryngopharyngeal symptoms are reliable predictors of GERD. With increased number of GERD symptoms one should be aware of the commonest symptoms so as to institute early therapy. This study shows simple and cost effective management of GERD. Empirical antireflux therapy should not be encouraged in the patients suffering from GERD so that no sinister disease pahology is missed. A standard pre diagnostic work up of such patients can lead to good clinical outcome following antireflux medication.

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