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# Otorhinolaryngologie alterations in patients with gastro-esophageal reflux diseases

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**Abstract:** Introduction: The gastroesophageal reflux disease (GERD) is defined as a chronic affection resulting from the reflux of part of the gastric content (and sometimes, gastroduodenal) to the esophagus and/or adjacent organs (pharynx, larynx, bronchia), causing a variable spectrum of esophageal and/or extra-esophageal signs and symptoms associated or not to tissue lesions. Object: To determine the prevalence of ORL' disorders in patients with gastro-esophageal reflux disease (GERD). Nowadays the number of patients with such complaints increases, which could be a result of higher acidity, inappropriate eating and lifestyle. Material and Methods: We carried out a retrospective study by approaching records of 54 patients attended in a period of 18 months. For all patients were made: standard ORL' examination; examinations of gastro-digestive tract: upper endoscopy (Patients with erosive esophagitis were classified according to the criteria of Los Angeles), X- Ray of esophagus and stomach; Ph test; The results were evaluated in the SPSS program, version 10.0, and we carried out frequencies evaluation, central tendency and standard deviation measurements and association test (chi-square). Results: Patients with typical symptoms of gastroesophageal reflux disease accounted for 48 (88%) .Twenty seven had changes consistent with class A (50%), class B with 17 (31.5%) and 10 with classes C + D (18.5%). The presence of laryngeal changes were more prevalent in more severe esophagitis (grades C and D Los Angeles) when compared to milder forms (classes A and B), a statistically significant difference ( $p < 0.05$ ). Conclusion: As a first level of gastro-digestive tract, the oral cavity can attack with higher PH of stomach' contents. Following these circumstances they are possible changes and lesions in the mucosa of oral cavity and the pharynx wall, the tongue root and teeth. The laryngeal disorders are frequent findings in patients with GERD, more frequent the greater the degree of esophageal injury.

**Keywords:** Gastro-Esophageal Reflux Diseases (GERD), GERD Symptoms, Chronic Laryngitis, Oral Cavity, Gastroduodenal Reflux

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## 1. Introduction

Erosive esophagitis - esophageal mucosal injury caused by both agents extrinsic as intrinsic agents - change is routinely found in diagnostic centers in gastroenterology, very often related to Gastroesophageal Reflux Disease (GERD). GERD it is, the high prevalence of a public health problem, a chronic disease, recurrent and impairing daily activities (1). The association between GERD and laryngeal disorders has been discussed since 1960 (2). Recent studies suggest an association between laryngeal symptoms and pharyngeal symptoms extra-esophageal reflux, as atypical presentation of Gastroesophageal Reflux Disease (3). Laryngopharyngeal reflux (LPR), defined as being the result of retrograde gastric contents into the light larynx, when, it comes in contact with the upper aerodigestive tract (4). Most patients with LPR do

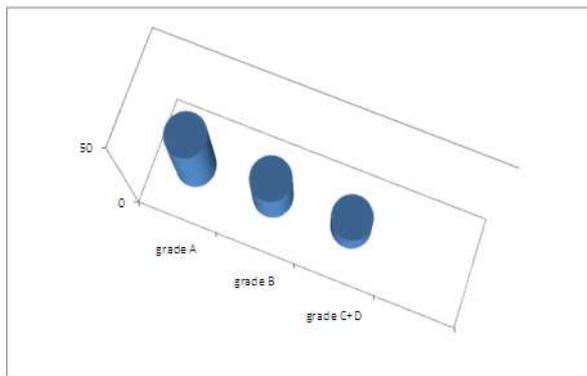
not present classic symptoms of GERD such as heartburn and regurgitation (5). It is postulated that approximately 50-60% of chronic laryngitis are unwieldy compared with GERD (2). Are nonexistent in the literature that relates the degree of esophagitis with the presence and degree of laryngeal lesions. This question appears to be important, since it modifies the proposed treatment, and improved significantly and more quickly and effectively the quality of life of patients correctly treated, according to the extent of their disease. The aim of this study is to determine the prevalence of ORL' disorders in patients with GERD. And our specific objective is to correlate the presence of changes in laryngeal comparison with the degree of erosive esophagitis.

## 2. Material and Methods

We evaluated all patients undergoing upper endoscopy. Patients with erosive esophagitis were classified according to the criteria of Los Angeles (Table 1, Figure 1) and responded to the questionnaire. Then they underwent direct laryngoscopy by the same examiner, using a rigid laryngoscope, and evaluated the presence of laryngeal disorders, as well as the nature of these lesions (redness, nodules on vocal cords, edema, signs of posterior laryngitis) and the degree of severity of these changes. Statistical analysis was performed in the "SPSS for Windows." The chi-square test was used to assess the relationship between the study variables. The significance level adopted was less than 5% ( $p < 0.05$ ). After the patients were informed of the purpose of the study all gave their written consent to participate.

**Table 1.** Los Angeles Endoscopic Grading Scheme for Esophagitis Severity

Los Angeles Endoscopic Grading Scheme for Esophagitis Severity	
Grade A	
One (or more) mucosal breaks no longer than 5 mm that do not extend between the tops of two mucosal folds.	
Grade B	
One (or more) mucosal breaks more than 5 mm long that do not extend between the tops of two mucosal folds.	
Grade C	
One (or more) mucosal breaks that are continuous between the tops of two or more mucosal folds but involve lesser than 75% of the circumference.	
Grade D	
One (or more) mucosal breaks that involve at least 75% of the esophageal circumference.	



**Fig 1.** Alignment of patients according to Los Angeles classification for GERD

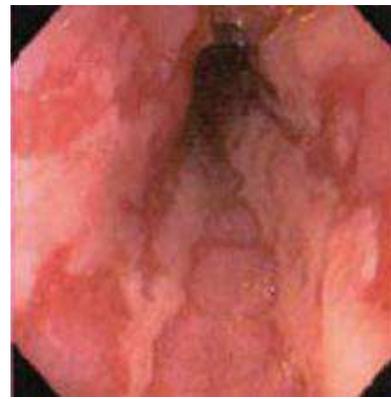
## 3. Results

Fifty four patients completed the study. Of these, 28 were male (51.8%) and 26 females (48.2%). The mean age was 47.9 years, ranging between 25 and 80 years. Patients with typical symptoms of gastroesophageal reflux disease accounted for 48 (88%), among these, 6 (12%) had atypical symptoms. Patients were classified according to endoscopic findings according to the classification of Los Angeles (Figure 2, 3). Twenty seven had changes consistent with

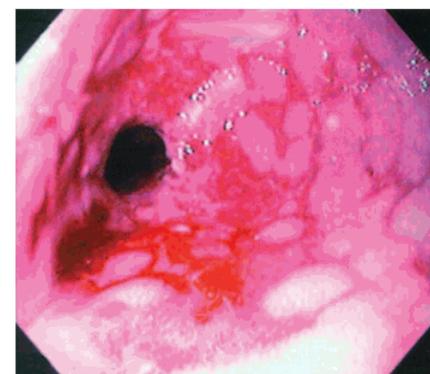
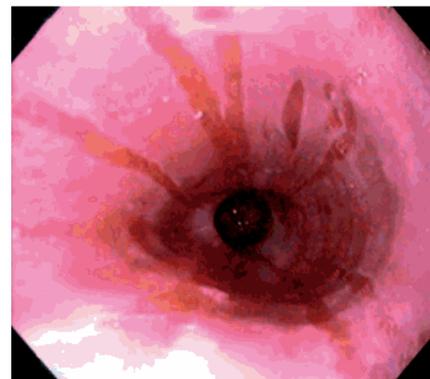
class A (50%), class B with 17 (31.5%) and 10 with classes C + D (18.5%).



**Fig 2. A** Upper Endoscopy - Reflux Esophagitis grade A



**Fig 2. B** Upper Endoscopy - Reflux Esophagitis grade B



**Fig 3.** Upper Endoscopy - Reflux Esophagitis grade C-D

Of the 27 patients who had endoscopic changes compatible with Class A of Los Angeles (50%) of 55.5% (15) had normal laryngoscopy and 44.5% (12) had changes consistent with posterior laryngitis. Among the 17 patients classified as class B from Los Angeles (31.5%), 29.4% (5) showed posterior laryngitis. Five complained of atypical symptoms (29.4%), of which two showed abnormal laryngoscopy. Class C and D were diagnosed in 10 patients (18.5%) all showed abnormal laryngoscopy: 3 posterior laryngitis, a crack and a triangular posterior varicosity. All patients were symptomatic. The presence of laryngeal changes were more prevalent in more severe esophagitis (grades C and D Los Angeles) when compared to milder forms (classes A and B), a statistically significant difference ( $p < 0.05$ ).

#### 4. Discussion

According to the American Bronchoesophagological Association, the most common symptoms of LPR are hoarseness (97%), globus pharyngeus (95%) and chronic cough (95%) (5, 9). Koufman (10) was the first to distinguish GERD LPR, in his study with 899 patients found that hoarseness was found in 87% of patients with LPR and only 3% of patients with GERD, heartburn was already present in 83% of patients with GERD, whereas only 20% occurred in patients with LPR. There are three ways to confirm LPR: (1, 6, 8) improvement of symptoms after medical treatment with lifestyle changes and medication, (2, 7, 9) endoscopic observation of the mucosa affected (3) demonstration of reflux events in studies of pH monitoring and study impedance multichannel (4). Endoscopic findings generally show nonspecific signs, however, suggestive of LPR: hyperemia, edema and narrowing mainly concentrated in the posterior larynx (posterior laryngitis). The endoscopic examination (either rigid or flexible laryngoscope) should be performed in all patients suspected of LPR (12). In a study published by Ylitalo (12), 74% of laryngeal contact granulomas were related to LPR. The pseudosulcus was found 2.5 times more often in patients with LPR (13). However, only 70% of pseudosulcos are related to LPR. Laryngeal inflamed tissues are more easily damaged during intubation, the greatest risk of granulomas and contact ulcers, and often are involved in symptomatic subglottic stenosis and lower airway disease (4). In a study by Toros et al (5), only 11% of patients with LPR symptoms showed changes consistent with GERD and endoscopy. As occurs with GERD, the response to the treatment of laryngopharyngeal reflux (LPR) with proton pump inhibitors (PPIs) has been described as highly variable (15). Unlike GERD, treatment for LPR, in many cases, is more aggressive and prolonged in order to achieve full resolution (10, 11). The treatment of patients with LPR is based on the use of proton pump inhibitors in double dose, divided in two doses, 30-60 minutes before meals (4, 13, 14). If after three months of treatment with appropriate changes in lifestyle and appropriate doses of PPIs there is no response, no need for additional tests to confirm diagnosis. When the doctor fails to recognize LPR,

patients may have prolonged symptoms and delayed healing of injuries, as well as being subjected to unnecessary costs, often high by inadequate diagnosis (15, 16).

#### 5. Conclusion

Laryngeal disorders are frequent findings in patients with esophagitis, more frequent the greater the degree of esophageal injury. The doctor should therefore use both tests in their diagnostic armamentarium for patients with complaints of typical and atypical GERD.

#### References

- [1] Kenneth RV, Donald OC. Practice Guidelines: Update Guidelines for the Diagnosis and Treatment of Gastroesophageal Reflux Disease. *American Journal of Gastroenterology*. 2005, 100:190-200.
- [2] Farrokhi F, Vaezi MF. Extra-esophageal manifestations of gastroesophageal reflux. *Oral Diseases*. 2001, 13:349-59.
- [3] Ulualp SO, Toohill RJ, Shaker R. Outcomes of acid suppressive therapy in patients with posterior laryngitis. *Otolaryngol Head Neck Surg*. 2001, 124:16-22.
- [4] Ford CN. Evaluation and Management of Laryngopharyngeal Reflux. *Jama*. 2005, 294(12):1534-1540.
- [5] Toros et al. Association of laryngopharyngeal manifestations and gastroesophageal reflux. *Eur Arch Otorhinolaryngol*. 2009, 266:403-9.
- [6] Barbuti RC, Moraes-Filho JPP. Doença do Refluxo Gastroesofágico. *Gastroenterologia Medica*. 2004, 119-128.
- [7] Dent J. et al. An evidence-based appraisal of reflux disease management - the Genval Workshop Report. *GUT*. 1999, 44(2):S1-S16.
- [8] Pribuisene R, Uloza V, Jonaitis L. Typical and atypical symptoms of laryngopharyngeal reflux disease. *Medicina*. 2002, 38(7):699-705.
- [9] Book DT, et al. Perspectives in laryngopharyngeal reflux: an international survey. *Laryngoscope*. 2002, 16:274-277.
- [10] Koufman JA. The otolaryngologic manifestations of gastroesophageal reflux disease (GERD): a clinical investigation of 225 patients using ambulatory 24-hour pH monitoring and an experimental investigation of the role of acid and pepsin in the development of laryngeal injury. *Laryngoscope*. 1991, 101:01-78.
- [11] Vaezi MF. Laryngitis and gastroesophageal reflux disease: increasing prevalence or poor diagnostic tests? *Am J Gastroenterol*. 2004, 99:1000-1010.
- [12] Ylitalo R, Lindestad P, Ramel S. Symptoms, laryngeal findings, and 24-hour pH monitoring in patients with suspected gastroesophago-pharyngeal reflux. *Laryngoscope*. 2001, 111:1735-1741.
- [13] Sharma P, Vakil N. Review article: *Helicobacter pylori* and reflux disease. *Aliment Pharmacol Ther* 2003; 17: 297-305.

- [14] McColl KE. Review article: Helicobacter pylori and gastro-oesophageal reflux disease-the European perspective. *Aliment Pharmacol Ther* 2004; 20 (suppl 8):36–39.
- [15] Haruma K. Review article: influence of Helicobacter pylori on gastro-oesophageal reflux disease in Japan. *Aliment Pharmacol Ther* 2004; 20 (suppl 8):40–44.
- [16] Raghunath AS, Hungin AP, Wooff D, Childs S. Systematic review: the effect of Helicobacter pylori and its eradication on gastro-oesophageal reflux disease in patients with duodenal ulcers or reflux oesophagitis. *Aliment Pharmacol Ther* 2004; 20: 733–744.