



Combination Therapy in Laryngopharyngeal Reflux

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Abstract

Aims & Objectives: To evaluate response of combination of b.i.d (twice daily) PPI (Proton pump inhibitors) plus nocturnal H2RAs (H₂ Receptor antagonists) in laryngopharyngeal reflux disease. **Material & Methods:** The present study was conducted on 100 patients between age group of 25-70 years attending ENT OPD of SMGS Hospital, GMC Jammu during a time period of November 2017 to September 2019. Inclusion criteria for our study were patients with symptoms of GERD (both esophageal and extraesophageal). Exclusion criteria were patients with other associated gastrointestinal complaints, patients suffering from URTI and patients having symptoms less than a month. Patients were prescribed acid suppression therapy consisting of twice daily dose of PPI (Omeprazole 20 mg) plus bed time H2RA (Rantidine 150 mg) for four months and reviewed after every 15 days. **Results:** Out of 100 patients, 71% patients showed improvement symptomatically at the end of four months and laryngeal findings resolved in 55% of patients. **Conclusion:** The combination of symptoms and laryngoscopic findings both show improvement with b.i.d PPIs. Additional nocturnal H2RA had minimal effect on response rate.

Keywords: LPR, reflux, PPI

Introduction

LPR is the retrograde (backward) movement of stomach enzymes (Pepsin) and acid into the lower throat region. LPR patients are usually unaware of LPR and, unlike Gastroesophageal Reflux Disease (GERD) patients, do not usually complain of heartburn.

When the lining of the throat is irritated by stomach contents, there is secretion of a mucus blanket in an attempt to protect the lining from the caustic agents. Reflux laryngitis is a common disease and is probably only one of several laryngeal manifestations associated with GERD. The symptoms and manifestations of LPR include dysphonia, Globus sensation, cough, subglottic stenosis, muscle tension dysphonia, laryngospasm, Vocal process granuloma, asthma, and possibly chronic sinusitis, laryngeal carcinoma.

The treatment options available to patients with LPR include combinations of dietary and behaviour modification, antacids, H₂-receptor antagonists, proton pump inhibitors, and fundoplication surgery^[1].

Clinical evidence indicates that pharmacologic intervention should comprise a minimum of 3 months of treatment with PPIs administered twice a day (40 mg omeprazole or an equivalent PPI), 30 to 60 minutes before a meal^[2]. But various trials have been performed altering the combination regimens, their dosage and total duration of treatment and variable results were noted. Hanson et al.^[5], Jaspersen et al.^[6] and Shaw et al.^[7] used single daily dose of omeprazole (20 mg), whereas Steward et al.^[8] and Wo et al.^[9] used Omeprazole (20 mg) twice daily.

Park et al.^[10] compared once vs twice daily PPIs in LPR and suggested a superiority of twice daily vs once daily PPI(s), which seems to be in accordance with the pharmacological properties of PPIs. Response rates however vary widely between the two groups.

Clinical data also reveal that even though PPIs significantly decrease acid secretion, they do not completely eliminate intra-gastric acidity. Reasons for this phenomenon include the relative short serum half-life of PPIs (2-4 hours), the fact that not all proton pumps are active at the same time, and that generation of new proton pumps is a continuous process.

Recovery of intra-gastric acidity, primarily during nighttime while on PPI therapy is termed as "Nocturnal acid breakthrough". It should not be regarded as a failure of, or resistance to, these compounds, but rather as an expected phenomenon that may require attention in some patients^[11]. During night individuals are recumbent and do not swallow as frequently as during daytime. Without the assistance of gravity and with decreased salivary buffering, oesophageal acid clearance depends primarily on esophageal peristalsis. Therefore, nocturnal acid breakthrough can be of particular importance in patients with laryngopharyngeal symptoms of GERD.

To counteract the challenge of nocturnal acid breakthrough, Tutuian R, and Castell DO^[10] have proposed addition of nocturnal H2RA to twice daily PPI regimen. However, Ours TM et al.^[11] found nocturnal acid breakthrough in 59% of subjects when twice-daily PPI therapy (before meals) was combined with bedtime H2RAs.

Hence, we conducted a study to evaluate efficacy of PPI plus H2RA combination.

Material and Methods

The present study was conducted on 100 patients between age group of 20-70 years attending ENT OPD of SMGS Hospital, GMC Jammu during a time period of November 2017 to September 2019.

We included all patients with symptoms of GERD (both oesophageal and extra oesophageal) in our study. Patients with other associated gastrointestinal complaints, patients suffering from URTI, were excluded from the study.

Detailed history of the patient was taken. Patients were considered for study only if they were symptomatic for at least one month. Complete ENT examination of all patients was done and laryngoscopic findings were imaged with the help of fibreoptic laryngoscope. Findings were recorded.

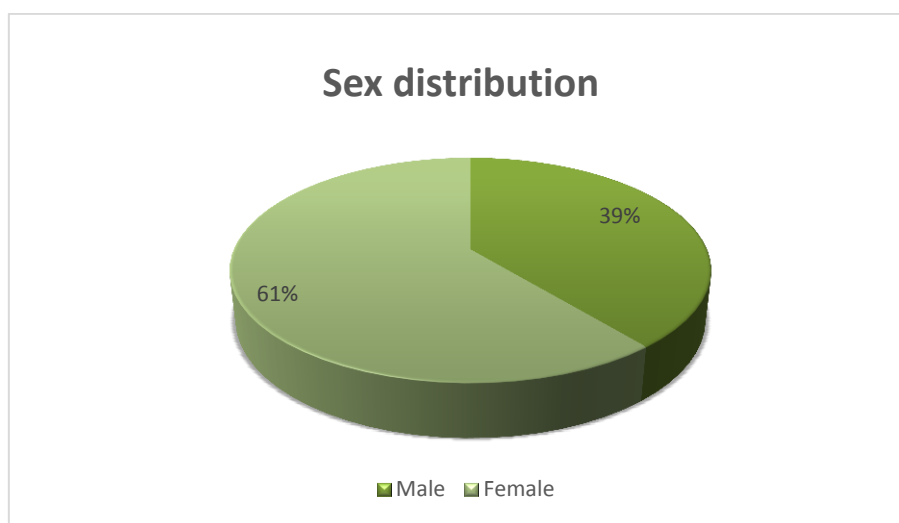
Patients were then put on acid suppression therapy consisting of twice daily dose of PPI (Omeprazole 20 mg) plus bed time H2RA (Rantidine 150 mg) for four months and reviewed after every 15 days.

All the patients were advised dietary changes and changes in habits such as weight loss, quitting smoking, avoiding alcohol, and not eating immediately before bedtime. Dietary restrictions included caffeine, chocolate, aerated beverages, fat, tomato sauce.

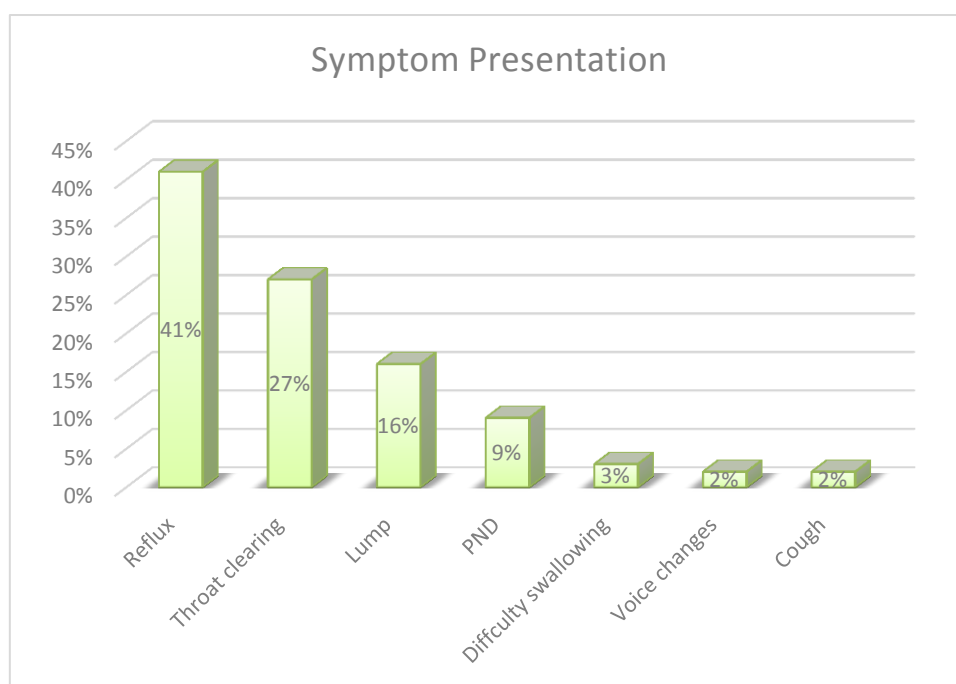
Fibreoptic laryngoscopy was done every month for four months and compared with pre-therapy findings.

Results

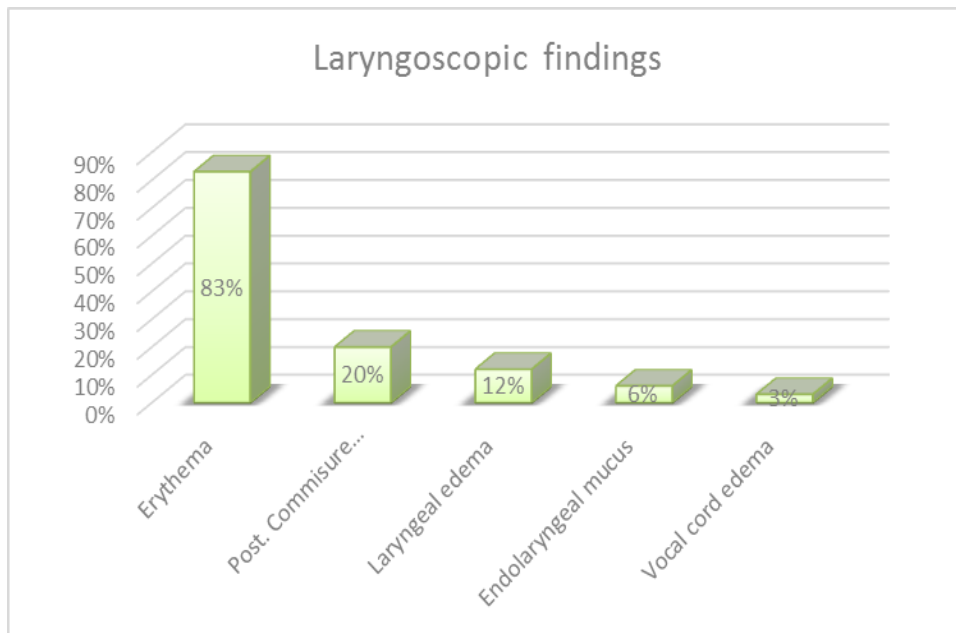
A total of 100 patients were included, age ranged between 25 to 70 years were studied. Mean age in our study was 48.27 ± 11.59 years. There were 61 females and 39 males.



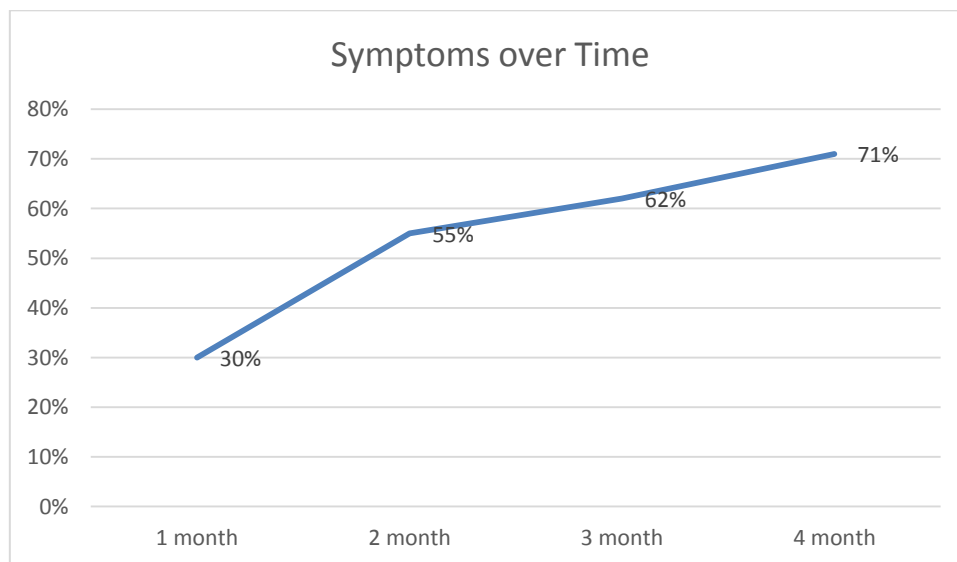
The main symptoms in our study were stomach acid coming up (reflux) (41%), throat clearing(27%), sensation of a lump or foreign body in the throat(16%),excess mucus or postnasal drip (9%), difficulty in swallowing solids or fluids(3%), voice changes (2%)and annoying cough(2%).



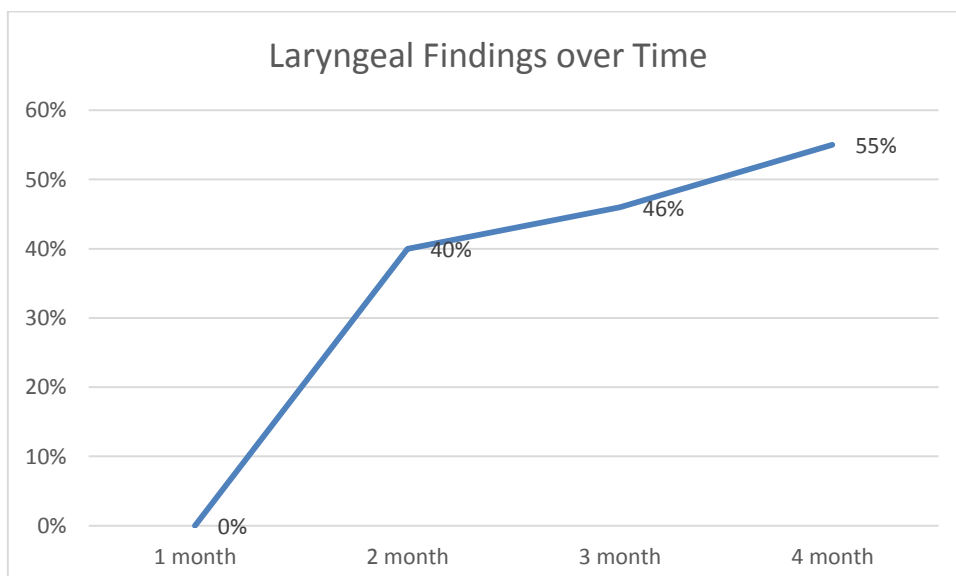
Fibreoptic laryngoscopy showed erythema or hyperemia (83%), posterior commissure hypertrophy (20%), diffuse laryngeal edema (12%), thick endolaryngeal mucus (6%) and vocal fold edema (3%).



At one month follow up, 30% patients showed symptomatic improvement. At second month, 55% patients were symptomatically better and at 3 months, 62% patients had improved. At the end of 4 months 71% patients had improved symptomatically.



Laryngoscopic findings showed no improvement at first month. However at second month laryngeal signs improved in 40% and at third month in 46%. At the end of fourth month 55% patients showed improvement in laryngeal pathology.



Discussion

Gastroesophageal reflux disease (GERD) and laryngopharyngeal reflux (LPR) are frequently managed by primary-care physicians although little is known about their current practices and management patterns. There is also lack of consistent guidelines and consensus for the diagnosis and management of laryngopharyngeal reflux (LPR). In contrast to GERD, the therapeutic response of patients with LPR to PPIs is variable, in part because LPR requires more aggressive and prolonged therapy than GERD. Although most patients show improvement of symptoms within 3 months, the resolution of symptoms and laryngeal findings generally takes 6 months. This variability in response is also due to the failure of studies to standardize inclusion criteria and to stratify groups according to severity, lack of adequate controls, and differences in therapeutic duration and dose^[4].

Mean age of presentation of 48.27 years, with majority of patients in the age group of 51-60 years. Out of 100 patients, 61% were females and 39% were males. Park W et al. in their study had median age group of 65 years with 29 % males.

The main symptoms in our study were stomach acid coming up (reflux) (41%), throat clearing (27%), sensation of a lump or foreign body in the throat (16%), excess mucus or postnasal drip (9%), difficulty in swallowing solids or fluids (3%), voice changes (2%) and annoying cough (2%).

However in the study of Park W et al.^[10] main presenting symptoms were throat clearing (84%), hoarseness (80%), cough (71%), sore throat (61%), Globus sensation (50%), and regurgitation (55%).

In our study, at 4 month follow-up, 71% of patients showed improvement in symptoms. These findings were comparable to study conducted by Park W et al.^[10] who showed response in 72% of patients treated with twice daily PPI plus H2RA at bed time. They however showed a similar response rate of 72% in patients taking twice daily PPI. Wo et al.^[13] in their study showed 67% symptom response rate using BID PPIs. In study by Williams et al.^[14] to evaluate the response to high-dose omeprazole therapy (20 mg three times a day), they showed a 63% response rate at 12 weeks post therapy.

In our study, laryngoscopic findings showed no improvement at first month. However at second month laryngeal signs improved in 40% and at third month in 46%. At the end of fourth month 55% patients showed improvement in laryngeal pathology. Noordzij et al.^[15] in their study showed no improvement in laryngeal signs at 2 month follow up. Belafsky PC et al.^[16] in their study found that physical findings of larynx heal over 6 months period.

Conclusion

Empirical therapy with PPIs has been widely accepted for the treatment of LPR. In contrast to GERD, the response to treatment with PPIs varies widely among patients with LPR. The symptoms show significant improvement with BID PPIs plus nocturnal H2RA. However laryngeal sign need prolonged treatment for resolution.

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