International Journal of Otorhinolaryngology and Head and Neck Surgery
Abbas SW et al. Int J Otorhinolaryngol Head Neck Surg. 2022 Mar;8(3):180-183
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20220465

Original Research Article

Laryngopharyngeal reflux disease in a series of Kashmiri patients at a tertiary care setting

Syed Waseem Abbas[1]*, Majid Ul Islam Masoodi[2], Viqar Khursheed Mir[2]

[1]Department of Health, Jammu and Kashmir, India
[2]Department of Otorhinolaryngology, Govt Medical College Srinagar, Jammu and Kashmir, India

Received: 20 December 2021
Revised: 23 January 2022
Accepted: 29 January 2022

***Correspondence:**
Dr. Syed Waseem Abbas,
E-mail: itz4n@yahoo.com

ABSTRACT

Background: Laryngopharyngeal reflux (LPR) is retrograde flow of gastric contents into the larynx, oropharynx and/or nasopharynx. LPR causes respiratory symptoms such as cough and wheezing and is often associated with head and neck complaints such as dysphonia, globus pharyngus, and dysphagia.
Methods: this is an observational study conducted over a period of 18 months at ENT OPD, GMC Srinagar. All patients aged 15 years and above who presented with clinical diagnosis of LPR, not taking any treatment were included. Demographic, dietary and RSI data were obtained by mean of a questionnaire. The 130 patients were recruited and given uniform treatment including antacids and PPIs and lifestyle modification. Routine follow up and assessment with repeat administration of the questionnaire and FOL was arranged for all patients at a period of 4 weeks from the initial assessment.
Results: The 130 patients were included. 100 were females (76.9%). The mean age was 41.1. The mean RSI and RFS were 9.2 (SD 2.9) and 6.9 (SD 2.5) respectively. Highest observed were troublesome coughs (0.25) and breathing difficulties (0.37). Highest observed RFS were erythema (2.03), ventricular obliteration (1.54) and posterior commissure hypertrophy (1.18) and lowest observed was vocal cord granuloma (0). 27.7% of patients had associated dental erosions and 12.3% had symptoms suggestive of sinusitis.
Conclusions: LPR in the study population was more common in females. Lack of association between RSI and RFR is note-worthy. Dietary modifications and pharmacological management are associated with statistically significant RSI and RFS improvement.

Keywords: Laryngophyrngeal, Esophageal, Reflux, Proton pump inhibitor

INTRODUCTION

Laryngopharyngeal reflux disease (LPR) is defined as the retrograde flow of stomach content to the larynx and pharynx whereby this material comes in contact with the upper aerodigestive tract.[3] Other aliases commonly used are extraesophageal reflux, reflux laryngitis or posterior laryngitis. LPR contributes up to 50% of laryngeal complaints hence; it is commonly encountered in clinical practice. LPR is present in 4-10% of those with gastro oesophageal reflux disease (GORD) while, about 20-70% with LPR has symptoms of GORD. However, there is paucity of data regarding LPR, its characteristics and associations in a Kashmiri population. Therefore, this study aimed to describe the demographic characteristics, presenting symptoms, dietary patterns and associations and laryngoscopic findings in the study population. It also explores the relationship between the reflux symptoms index (RSI) and the reflux findings score (RFS) and the effect of treatment on the above parameters.

Reflux symptom index (RSI)-(0-5), max-45:[4] 1) Throat clearance, 2) Hoarseness/ problem with voice, 3) Excessive throat mucus/post nasal drip, 4) Difficulty in swallowing food, liquid, 5) Coughing after eating or lying down, 6) Breathing difficulties/chocking episodes, 7) Troublesome/annoying cough, 8) Sensation of lump in the throat and 9) Heartburn/chest pain or acid coming up.

Reflux finding score (0-26) on FOL: 1. Subglottic odema (0=absent, 2=present), 2. Ventricular obliteration (2=partial, 4=complete), 3. Erythema/ hyperaemia (2=arytenoids only, 4=diffuse), 4. Vocal cord odema (1=mild, 2=moderate, 3=severe, 4=polypoid), 5. Diffuse laryngeal odema (1=mild, 2=moderate, 3=severe, 4=obstructing), 6. Posterior commissure hypertrophy (1=mild, 2=moderate, 3=severe, 4=obstructing), 7. Granuloma/ granulation (0=absent, 2=present) and 8. Thick endolaryngeal mucus/ other (0=absent, 2=present).

Following dietary habits were considered and depending on the amount of consumption, dietary score was given for each (0-5) with the maximum of 60 points (Chili, curries, tea, coffee, fatty foods, onions, tomatoes, vinegar, pickles and bread).

METHODS

This is an observational study which was conducted over a period of 18 months from 1st June 2018 to 30th November 2019 in already diagnosed cases of LPR at our outpatient department of ENT and HNS at SMHS Hospital GMC Srinagar, which included 1 year of patient recruitment and 6 months of data compilation and analysis. Ethical approval was obtained from ethical committee GMC Srinagar.

Inclusion criteria

All the patients aged 15 years and above who presented with the clinical diagnosis of LPR at ENT OPD in GMC Srinagar from 1st June 2018 to 31st May 2019.

Exclusion criteria

Those who could not be a part of the study due to any reason were excluded from the study and those who were already taking treatment.

The written consent was taken from the patients. Demographic, dietary and RSI data were obtained by mean of an interviewer administered questionnaire. FOL was performed in all patients by the same investigators. We could recruit 130 patients over a period of 1 year with none lost to follow up and no single death reported among participants. Patients were given uniform treatment with lifestyle modification and medication including antacids and proton pump inhibitors. Routine follow up and assessment with repeat administration of the questionnaire and FOL was arranged for all patients at a period of 4 weeks from the initial assessment

RESULTS

The 130 patients were included. Of these 100 were female (76.9%). The mean age was 41.1 (range 20-78, SD=13.1). The mean RSI and RFS were 9.2 (SD=2.9) and 6.9 (SD=2.5) respectively. Highest pre-treatment Reflux symptom scores were for sensation of lump in throat (2.06), throat clearance (1.63) and heartburn (1.90) and lowest observed were for coughing after eating (0.45) and breathing difficulty (0.37). While as the post treatment RSI score varied minimally with highest score for throat clearance (0.56) and excessive throat mucus (0.43). Dental caries was present in 27.7%, sinusitis (12.3%). OSA (9.1%), OME (9.2%) and bronchial asthma (7.7%). There was no association between the dietary score and the RSI (p=0.59) or RFS (p=0.83). However, high dietary score was significantly associated with vocal fold edema (p=0.45) and diffuse laryngeal odema (p=0.49). There was no significant association between RFS>7 and the RSI (p=0.531). Statistically, significant improvements in RSI (p<0.001), RFS (p<0.001) and dietary score (p<0.001) were seen at post intervention follow up.

Table 1: Reflux finding score.

Findings	Mean score	Percentage (%)
Subglottic odema	0.75	40
Ventricular obliteration	1.54	87.2
Erythema/hyperaemia	2.03	98.5
Vocal cord odema	0.77	64.2
Granuloma/granulations	0	0
Diffuse laryngeal odema	0.09	4.6
Posterior commissure hypertrophy	1.18	66.2
Thick endolaryngeal mucus/other	0.62	56.9

Table 2: Dietary consumption pattern in LPR patients.

Food items	Mean consumption score
Chilli	2.03
Curry	1.89
Tea	2.86
Coffee	0.43
Fat	1.62
Onion	1.74
Tomato	1.23
Vinegar	0.34
Pickle	0.26
Bread	1.05

Table 3: Reflux symptom index.

Reflux symptom	Mean score	Percentage (%)
Sensation of lump in throat	2.06	84.62
Throat clearance	1.85	72.50
Heartburn	1.63	70.90
Excessive throat mucus	1.9	53.82
Hoarseness	0.92	47.71
Difficulty in swallowing	0.48	29.22
Coughing after eating or lying down	0.45	29.20
Breathing difficulty	0.37	23.1

Mean RSI score=9.15, SD=2.92.

Table 4: Complications and associations.

Complications	Frequency	Percentage (%)
Dental caries	36	27.7
Sinusits	16	12.3
Obstructive sleep apnea	12	9.1
Otitis media with effusion	12	9.2
Bronchial asthma	10	7.7

Table 5: Pre and post treatment reflux symptoms.

Reflux symptom	Pre-treatment mean score	Post treatment mean score
Sensation of lump in throat	2.06	0.23
Throat clearance	1.85	0.56
Heartburn	1.63	0.34
Excessive throat mucus	1.09	0.43
Hoarseness	0.92	0.32
Difficulty in swallowing	0.48	0.12
Coughing after eating or lying down	0.45	0.11
Breathing difficulty	0.37	0.20

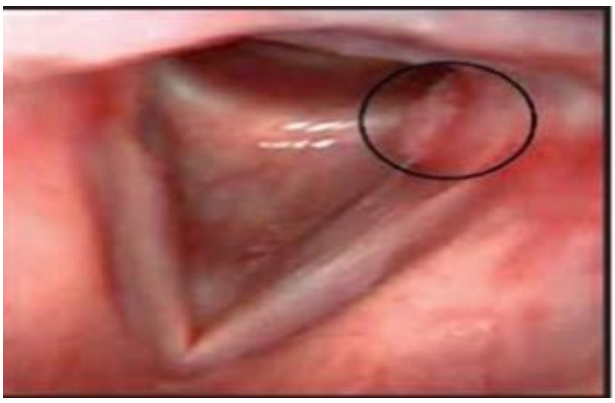

Figure 1: Mucosal erythema and granuloma formation.

Figure 2: Thick mucosal strings.

DISCUSSION

Efficacy of anti-reflux medical treatment is highly variable in the literature. In prospective studies with placebo control, anti-reflux medication showed marked improvement in reflux symptoms and signs.[5,6] while it failed to demonstrate significantly greater improvement in other studies when compared to placebo.[7,8] However, in so many studies without placebo control, anti-reflux medication was found to be effective in resolution of laryngeal symptoms and signs. The efficacy was reported to be around 65%.[9,10] The controversial results of these studies may be due to differences in inclusion criteria, assessment of the severity and outcome of symptoms and signs, and different doses or duration of the medication. In this study, empiric anti-reflux treatment with duration of 4 weeks yielded statistically significantly improvement in RSI and RFS. Relating with the symptoms; treatment was successful in all subtopics of RSI regarding the severity but not successful for complete eradication of symptoms as assessed in terms of frequency. This means that the treatment had decreased the severity of the symptoms significantly in all subtopics but could not eradicate the complaints totally in a significant number of the patients in the study group.

Limitations

Though there were 130 participants, the target population of the study was relatively small as it was mainly based on this centre for 1 year duration, which was regarded as a major limitation.

CONCLUSIONS

LPR in the study population was more common in females. The mean RSI and RFS are lower than that observed in previous studies. Lack of association between RSI and RFR is note-worthy. Dietary modifications and pharmacological management are associated with statistically significant RSI and RFS improvement.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Kahrilas PJ. Maximizing outcome of extra-esophageal reflux disease. Am J Manag Care. 2000;6(16):S876-82.
2. Cazzola M, Segreti A, Calzetta L, Rogliani P. Comorbidities of asthma: current knowledge and future research needs. Current Opinion Pulmonary Med. 2013;19(1):36-41.
3. Ford CN. Evaluation and management of laryngopharyngeal reflux. JAMA. 2005;1534-40.
4. Nunes HS, Pinto JA, Zavanela AR, Cavallini AF, Freitas GS, Garcia FE. Comparison between the reflux finding score and the reflux symptom index in the practice of otorhinolaryngology. Int Arch Otorhinolaryngol. 2016;20(3):218-21.
5. El-Serag HB, Lee P, Buchner A, Inadomi JM, Gavin M, McCarthy DM. Lansoprazole treatment of patients with chronic idiopathic laryngitis: a placebo-controlled trial. Am J Gastroenterol. 2001;96:979-83.
6. Eherer AJ, Habermann W, Hammer HF, Kiesler K, Friedrich G, Krejs GJ. Effect of pantoprazole on the course of reflux-associated laryngitis: a placebo controlled double-blind crossover study. Scand J Gastroenterol. 2003;38:462-7.
7. Steward DL, Wilson KM, Kelly DH, Patil MS, Schwartzbauer HR, Long JD et al. Proton pump inhibitor therapy for chronic laryngopharyngitis: a randomized placebo-control trial. Otolaryngol Head Neck Surg. 2004;131:342-50.
8. Vaezi M, Richter J, Stasney SR, Spiegel JR, Iannuzzi RA, Crawley JA et al. Treatment of chronic posterior laryngitis with esomeprazole. Laryngoscope 2006;116:254-60.
9. Kamel PL, Hanson D, Kahrilas PJ. Omeprazole for the treatment of posteriorlaryngitis. Am J Med. 1994;96:321-6.
10. Del Gaudio JM, Waring JP. Empiric esomeprazole in the treatment of laryngopharyngeal reflux. Laryngoscope. 2003;113:598-601.

Cite this article as: Abbas SW, Masoodi MUI, Mir VK. Laryngopharyngeal reflux disease in a series of Kashmiri patients at a tertiary care setting. Int J Otorhinolaryngol Head Neck Surg 2022;8:180-3.