



CHARACTERISTICS OF LARYNGOPHARYNGEAL REFLUX IN PATIENTS OF Dr. HASAN SADIKIN HOSPITAL BANDUNG 2017 – 2021

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Abstract

Background: Laryngopharyngeal reflux (LPR) is a disease caused by the backflow of stomach contents into the laryngopharynx. In 2018, 20-30% of patients with laryngeal complaints were diagnosed with LPR in Indonesia. Aims: To determine the prevalence of LPR cases at Dr. Hasan Sadikin General Hospital, Bandung. Methods: This is a descriptive study using a retrospective method to identify the characteristics of LPR patients at the ORL-HNS clinic at Dr. Hasan Sadikin General Hospital in Bandung from 2017 to 2021. Results: A total of 368 cases were treated at the ORL-HNS clinic. Among them, 205 were female patients (55.71%) and 163 were male patients (44.29%) with the highest age group being 46-55 years. The largest group of patients had a normal BMI (18.5 - 22.9). The chief complaint most frequently reported by patients was throat clearing, with 92 patients (25.00%), followed by hoarseness in 80 patients (21.74%) and difficulty swallowing in 64 patients (17.39%). Conclusion: Female patients dominated the study population, with the highest age group being 46-55 years. The largest group of patients had a normal BMI. The chief complaints reported by patients were throat clearing, followed by hoarseness, difficulty swallowing, and a lump in the throat.

Keywords: Laryngopharyngeal reflux, throat clearing, difficulty swallowing

INTRODUCTION

Laryngopharyngeal reflux (LPR) is a disease caused by the backflow of stomach contents into the laryngopharynx.¹ Based on survey data from Otolaryngologists in the West and East Asia, it was discovered that up to 70% of patients were diagnosed with LPR in numerous Asian nations.² Furthermore, LPR diagnoses ranged from 10% to 30% in Western countries.³ In 2018, 20-30% of patients with laryngeal complaints were diagnosed with LPR in Indonesia.⁴

There are 9 symptoms of RSI that can be used for assessing whether there is laryngopharyngeal reflux. Hoarseness (71%), cough (51%), and a lump in the throat (globusfaringeus) (47%), are the most present symptoms of LPR. Each item is rated on a scale of 0 to 5, with a maximum total score of 45. An RSI of more than equal to 13 is considered to indicate LPR.⁵ In general, treatment for LPR comprises dietary adjustments, lifestyle changes, medication with anti-reflux medications, and surgical treatments. Patient's complaints will decrease with healthy diet and lifestyle changes, such as eating the last 2-4 hours before lying down, reducing food portions, and avoiding foods that reduce esophageal sphincter muscle tones, such as fatty foods, fried foods, coffee, soda, alcohol, mint, chocolate, sour fruit and juices, vinegar, mustard, and tomatoes, and recommend a strict low acid or acid-free diet.²

Proton pump inhibitor (PPI) is used to treat early-stage LPR which has been demonstrated to be effective and it is currently most commonly used. PPI has been the most effective medicine for lowering stomach acid secretion and treating LPR symptoms since its introduction in the 1980s, superior to H2 receptor antagonists and prokinetic drugs.⁶

METHODS

This is a descriptive study with a retrospective method. The study was conducted at Dr. Hasan Sadikin Hospital in Bandung from March 2017 to July 2021. The sampling technique used was total sampling from medical record data of patients diagnosed with laryngopharyngeal reflux. The research subjects were all patients with a diagnosis of LPR who were treated at the ORL-HNS clinic. The secondary data was taken from medical records in 2017 – 2021. The inclusion criteria were medical record data of patients who were treated and diagnosed with LPR. Meanwhile, Data from medical records that were incomplete or missing were excluded. The technique of taking research subjects was carried out using total sampling. The variables used in this study were age, sex, body mass index, and clinical symptoms. The data collected will be analyzed using descriptive statistics and processed using software (Microsoft® Excel 2019).

RESULTS

The characteristics of the research sample based on gender are shown in Table 1

Table 1. Sample distribution by gender.

| Gender | N | % |
|--------|-----|-------|
| Male | 163 | 44.29 |
| Female | 205 | 55.71 |

Of the 368 cases, there were more female patients than male patients, with a percentage of 205 female patients (55.71%) and 163 male patients (44.29%).

Table 2 Distribution of the sample by age

| age (years) | N | % |
|-------------|-----|-------|
| 0-5 | 0 | 0 |
| 5-11 | 0 | 0 |
| 12-16 | 0 | 0 |
| 17-25 | 25 | 6.79 |
| 26-35 | 36 | 9.78 |
| 36-45 | 48 | 13.04 |
| 46-55 | 106 | 28.80 |
| 56-65 | 90 | 24.46 |
| > 65 | 63 | 17.12 |

The majority of patients were 106 (28.80%) aged 46-55 years. The youngest patient was 18 years old, and the oldest was 72 years old.

Table 3. Sample distribution based on BMI

| BMI | N | % |
|--------------------|-----|-------|
| <i>Underweight</i> | 6 | 1.63 |
| Normal | 174 | 47.28 |
| <i>Overweight</i> | 117 | 31.79 |
| Obesitas I | 52 | 14.13 |
| Obesitas II | 19 | 5.16 |

Patients with normal BMI (18.5-22.9) were the largest group, namely 174 patients (47.28%), followed by the Overweight patient group (23-24.9) with 117 patients (31.79%).

Table 4 Sample distribution by chief complaint

| Complaints | N | % |
|--|----|-------|
| Hoarse voice/voice problems | 80 | 21.74 |
| <i>(throat clearing)</i> | 92 | 25.00 |
| <i>excessive/post nasal drip</i> | 28 | 7.61 |
| Hard to swallow | 64 | 17.39 |
| Cough after meal | 7 | 1.90 |
| Difficult to breathing/ <i>choking</i> | 5 | 1.36 |
| Coughing | 13 | 3.53 |
| A lumpy feeling in the throat | 57 | 15.49 |
| <i>Heartburn</i> | 22 | 5.98 |

The chief complaint that patients most often complain about is throat clearing in 92 patients (25.00%), followed by hoarseness in 80 patients (21.74%) and difficulty swallowing in 64 patients (17.39%).

DISCUSSION

In this study, there were more female patients than male patients. This is consistent with previous studies by Munifah et al, where women were 64.29% and men were 35.71%. This is related to stress's influence on the pathophysiology of gastroesophageal reflux. Some studies have shown that women suffer from stress more often than men. Hormonal factors contribute to increased stomach acid secretion. Cortisol and adrenal hormones increase the secretion of HCl and pepsin by parietal cells and the peptic glands.⁷

The largest age group in this study was the young elderly group (46-55 years) with 106 patients (28.80%). This is consistent with previous studies by Widiartari et al. The occurrence of LPR over 40 years is due to frequent changes in the laryngeal mucosa, edema occurs in the superficial layers of the lamina propria, especially in postmenopausal women. Changes occur in the laryngeal glands, resulting in decreased mucus production. It is granular in the endoplasmic reticulum and Golgi apparatus in the mucus and serosa of the larynx. This decreases the quantity and quality of mucus secretion in the larynx. Changes occur in the epithelial mucosa of the vocal fold, causing the mucosa to thin and the larynx to become exposed to acidic chemicals, which in turn increases the incidence of LPR. There are additional changes in the area above the larynx, such as atrophy of the face, pharyngeal, and masticatory muscles, and also weakness of the esophageal sphincter, which makes reflux more likely.^{5,8}

Patients with normal BMI (18.5-22.9) were the largest group, namely 174 patients (47.28%). This is consistent with previous studies by Halum et al which stated that laryngopharyngeal reflux was not associated with an increase in BMI or obesity. Although the results of many studies suggest obesity is a risk factor for reflux.⁹

In this study, the main complaint that most patients complained about was coughing (25.00%) followed successively by hoarseness (21.74%), difficulty swallowing (17.39), and a lump in the throat (15.49%). This is following the American Bronchoesophageal Association as cited by Ford, the most common complaints found by patients with laryngopharyngeal reflux disease are coughing (98%), hoarseness (98%), chronic cough (97%), a lumpy feeling in the throat (95%)., PND (57%).¹⁰

Gastric reflux causes reduced mechanosensitivity and chemosensitivity of the laryngeal mucosa because chronic acid irritation causes an increase in the collection of irritant materials in the larynx area resulting in local inflammation. If the reflux barrier fails, the number of respiratory ciliated epithelium in the larynx increases. Ciliary dysfunction also occurs which will cause mucus collection resulting in post-nasal drip. The cough reflex is an adaptive mechanism for cleaning the larynx, causing the patient to cough (throat clearing). The combination of these causes edema of the vocal folds, ulcers, and granulomas resulting in symptoms of hoarseness and a lumpy feeling in the throat.^{1,8}

CONCLUSION

The results of the study presented that patients with laryngopharyngeal reflux who are treated at the ORL-HNS clinic at Dr. Hasan Sadikin General Hospital Bandung for the 2017-2021 period totaled 368 people. Female patients dominated the study population, with the highest age group being 46-55 years. Patients with Normal BMI (18.5 - 22.9) are the largest group. The main complaint most often felt by patients is coughing (throat clearing), followed by hoarseness, difficulty swallowing and a lump in the throat.

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