Etiological Spectrum of Hoarseness of Voice in Western Regional Hospital, Pokhara, Nepal

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ABSTRACT

Background: Hoarseness of voice is a common symptom presentation in the Department of ENT. The etiology ranges from benign to malignant causes. Video nasopharyngolaryngoscopy is an effective method of evaluation of the laryngeal pathologies. The aim of the study was to study the different etiological factors of hoarseness of voice presenting in the Department of ENT at Western Regional Hospital, Pokhara.

Materials and Methods: A retrospective observational longitudinal study was done in the Department of ENT, Western Regional Hospital after approval from IRC, Pokhara Academy of Health Science. A total of 275 patients presenting to the ENT Department with hoarseness of more than two weeks duration were examined with video nasopharyngolaryngoscopy (NPL) from April 2018 to March 2019. The data were electronically entered and analyzed with SPSS Version 21.

Results: Total number of cases were 275 among which 187 (68%) were females whereas 88 (32%) were males. Vocal cord nodules were observed in 107 patients (38.9%), features of laryngopharyngeal reflux were observed in 54 patients (19.6%) muscle tension dysphonia was seen in 49 (17.8 %), vocal cord polyp in 6 patients (2.2%), left vocal cord palsy in 7 patients (2.5%), right sided vocal cord palsy in 2 patients (0.7%). The hemorrhagic polyp, leucoplakia and ventricular dysphonia were observed in 3 patients each.

Conclusion: Since causes of hoarseness of voice range from simple benign diseases to malignant diseases, it is mandatory to evaluate every cases of hoarseness of voice replace with of more than 2 weeks duration with history, videolaryngoscopic examination and investigations.

Keywords: Hoarseness, Video Laryngoscopy, Vocal Nodule.

INTRODUCTION

Hoarseness is defined as an altered vocal quality, pitch, loudness, or vocal effort that impairs communication or reduces voice-related quality of life .[1] Hoarseness of voice is a common symptom in ENT practice and is invariably the earliest manifestation of a large variety of conditions directly or indirectly affecting the voice apparatus .[2]

Hoarseness is a symptom not a diagnosis. The causes of hoarseness ranges from totally benign to most malignant conditions.[3] Hoarseness affects nearly about one third of the population at some point in their life .[4] The causes of hoarseness are diverse. Hoarseness can be divided into acute or chronic. The acute onset is more common and mainly caused by inflammation like acute laryngitis whereas other causes could be viral infection, smoking, vocal abuse, laryngeal trauma or thyroid surgery. The chronic onset is mainly caused by vocal cord nodule, polyp, laryngeal papillomatosis, tumor of vocal cord, functional dysphonia, smoking, laryngopharyngeal reflux disease (LPR), post nasal drip, vocal abuse, neoplasm of thyroid, esophagus, lung, chronic granulomatous disease like tuberculosis or systemic disease like diabetes mellitus .[5]

Hoarseness lasting for months demands a proper diagnosis and early management. If proper history is not taken and hoarseness is treated symptomatically specially in chronic cases then sometimes an underlying cause and delay its treatment leading to persistent hoarseness,discomfort and a grievous outcome such as malignancy, tuberculosis and its complications. Hoarseness lasting more than 2 weeks needs to be evaluated by visualization of the vocal cords. Sometimes evaluation of vocal cords also aids in the diagnosis of other pathologies in chest such as carcinoma chest to granulomatous diseases like tuberculosis in which patients otherwise may be asymptomatic.

Video laryngoscopy is a very useful and effective method of evaluation and documentation of pathological conditions of the larynx. It is of great value for making accurate diagnosis and planning proper treatment. Video laryngoscopy is a non-invasive and easy OPD procedure for the diagnosis of a wide range of laryngeal pathologies[3]

The aim of the study was to study the different etiological factors of hoarseness of voice presenting in the Department of ENT at Western Regional Hospital, Pokhara.

MATERIALS AND METHODS

This study was approved by Institutional Review Committee of Pokhara Academy of Health Sciences.

A retrospective longitudinal study was conducted in the Department of ENT in patients who presented with the chief complaint of hoarseness of voice for more than 2 weeks from April 2018 to March 2019.The aim of the study was to assess the various etiological factors of hoarseness of voice and to study the age and gender distribution of the various causes of hoarseness. A total of 275 cases were included in the study.

Flexible video nasopharyngolaryngoscopy examination was done with a Fujinon ER-270FP endoscope with EVE processor EPX-201H under local anesthesia with 4% xylocaine spray and the endoscopic findings were evaluated by the ENT team consisting of ENT Surgeons and a speech and language pathologist. Data was collected from the records and entered into Microsoft Word Excel. Patients undergoing speech therapy, post laryngeal surgery and symptomatic for less than 2 weeks and patients with laryngeal infections were excluded from the study. The obtained data was analyzed using SPSS version 21.

RESULTS

In this study, total number of cases were 275 among which 187 (68%) were females whereas 88 (32%) were males(Figure1) Minimum age of the patient evaluated was 6 years and maximum age was 86 years with mean age 42.59 ±15.37 years. The most common age group was between 31 to 40years (27.3%) (Figure 2).

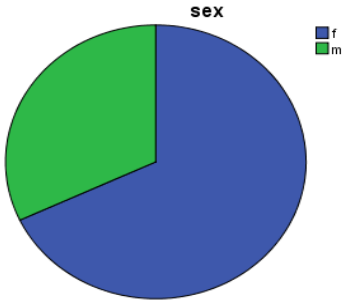

Figure 1. Sex distribution of patients (n= 275)

(Male:32% ,Female:68%)

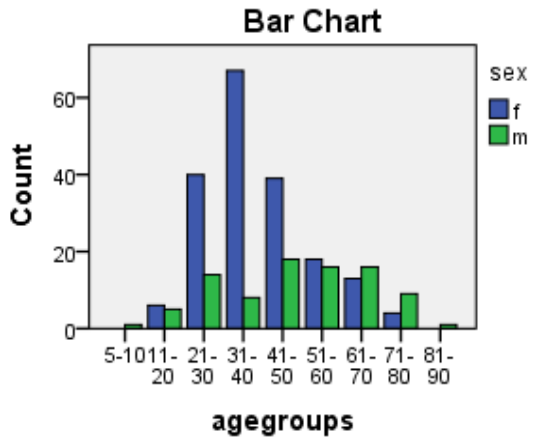

Figure II. Age wise distribution of cases (n=275)

As per the ethnic group (61.5%) belonged to Brahmin /Chhetri community, 16% were Mongolian community, 16.5 % were from Dalit community and 6.2% were from Newar community (Fig 3).

Table 1: Distribution of cases as per ethnicity (n= 275)

Ethnic group	Numbers	Percentage (%)
Mongolian	44	16.0
Brahmin/Chhetri	169	61.5
Dalit	45	16.4
Newar	17	6.2
Total	275	100.0

Cord nodules were observed in 107 patients (38.9%), features of laryngopharyngeal reflux (LPR) were observed in 54 patients (19.6%) muscle tension dysphonia was seen in 49 patients (17.8 %), vocal cord polyp in 6 patients (2.2%), left vocal cord palsy in 7 patients (2.5%), right sided vocal cord palsy in 2 patients (0.7%), and hemorrhagic polyp, leucoplakia & ventricular dysphonia were observed in 3 patients each.1 patients each of puberphonia, papilloma and spasmodic dysphonia were seen among which 4 cases of Reinke's edema, 2 cases each of tuberculosis larynx and carcinoma larynx confirmed by the gross features were detected. However , in spite of hoarseness of voice, 30 patients (10.9%) had a normal larynx on endoscopic examination. (Table 1)

Table 2. Etiology of hoarseness (n= 275).

Pathology	Numbers	Percentage (%)
Vocal nodule	107	38.9%
LPR	54	19.6%
Muscle tension Dysphonia	49	17.8%
Functional	30	10.9%
Vocal polyp	6	2.2%
Vocal cord palsy	9	3.2%
Spasmodic dysphonia	1	0.4%
Papilloma TVC	1	0.4%
Ventricular dysphonia	3	1.1%
Reinke's edema	4	1.5%
Tuberculosis of larynx	2	0.7%
Carcinoma larynx	2	0.7%
Puberophonia	1	0.4%
Hemorrhagic nodule	3	1.1%
Leukoplakia	3	1.1%

DISCUSSION

In this study, patients who presented in ENT OPD with the complaints of hoarseness of voice for more than two weeks were evaluated.. The endoscopic findings of these patients were categorized under 15 pathological conditions. The ratio of female to male was found to be 2.1:1. This finding was similar to the study done by Van Houtte et al. which differed from the study done by Shrestha BL et al.,Baitha S et al. and Taous A

et al. [6-9]. The probable cause of higher number of female patients in our community may be due to the fact that women need to raise their voice at home while dealing with children and taking care of hard hearing elderly. Those working as primary school teachers often have to deal with children in noisy primary classes. Majority of the patients with hoarseness fall under the age group of 21-50 years (67.6 %) which is a productive and active age of life. This finding is comparable to study done by Shrestha BL et al Baitha S et al. and Taous A et al. [7-9]. Vocal nodule was the most common pathology of hoarseness (38.9%) in this study which was similar to the study done by Vindrani N et al.and Nimish et al. [2,3]. Laryngopharyngeal reflux was the second most common cause of hoarseness of voice (19.6%) which was comparable to study done by Taous A et al (25.5%) Kataria G (20.55%) but in contrast to study done by Baitha S et al. (1.18%) which can be explained by the rising rate of acid peptic disease in our community due to unhealthy life style and rising fame of fast food. [8-11] Similarly muscle tension dysphonia was also observed in 17.8 % of the population. Functional hoarseness was observed in 10.9% similar to Kataria G et al. (7.22%).Vocal cord palsy as a cause of hoarseness was observed in 3.2% of the study comparable to Shrestha BL et al (2.1%) , Taous A et al (2.5%) in contrast to Kataria G et al (11.11%) [7,9,10]. Reinke's edema was observed in 1.5% of this study similar to Shrestha BL et al (2.5%) and Kataria G et al. (3.33%.)[7,10] .Laryngeal tuberculosis was observed in 0.7% which was similar to Shrestha BL et al.(0.4%) ,a little lesser than Kataria G et al (2.22%).[7,10] Spasmodic dysphonia was observed in 0.4%. Vocal cord polyp was seen in 2.22% of population compared to Baitha Set al (4.54%) and Kataria et al. (5%)and Shrestha BL et al. (0.7%).Laryngeal malignancy was observed in 0.7% which was much lower than study done by Kataraia G et al. (11.67%),Taous A et al. (12%) and Shrestha BL et al.(5%).[8,10]

CONCLUSION

Since cases of hoarseness of voice ranges from simple benign diseases to malignant diseases it is mandatory to evaluate every case of hoarseness of voice lasting more than 2 weeks with history followed by video laryngoscopic examination and other necessary investigations

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