

ORIGINAL ARTICLE

To investigate the clinicopathological characteristics of individuals presenting with hoarseness of voice

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ABSTRACT:

Aim: To investigate the clinicopathological characteristics of individuals presenting with hoarseness of voice. **Materials and Methods:** A total of 100 patients presenting with Hoarseness of voice were included in the study irrespective of their age, sex, and duration of disease. A thorough history, clinical, and ENT examination were made. Vocal professionals were classified into four levels according to Kaufmann and Isaacson's classification. Level I (elite vocal performers), level II (professional voice users), level III (non -vocal professionals, Level IV (non-vocal non professionals). Routine investigations like CBC, Sugar, routine urine, X-ray chest- PA view, and X-ray soft tissue neck- AP and lateral view were done. **Results:** Total ENT was 12456 (7893 new and 4563 old). Out of this, 100 patients presented with Hoarseness of voice. Thus, the incidence calculated was 0.80 of all cases and 1.27% of new OPD cases. Laborer class constituted the single largest group of patients (42%), followed by housewives (32%). Vocal professionals were categorized according to the classification by Koufman and Isaacson. Level I or the elite vocal performers (singers) 4 (4%), level II or the professional voice users (businessmen) 7 (7%), level III or non-vocal professionals (teachers) 6 (6%), level IV or non-vocal nonprofessionals (laborer, housewives, students) 83 (83%). Vocal cord paralysis was the leading cause of Hoarseness seen in as many as 23% of patients. It was followed by malignancy (17%) and vocal nodule (15%). **Conclusion:** Hoarseness may have several causes, ranging from minor infections to severe cancers. The genesis, risk factors, and clinical characteristics of the condition differ depending on the location.

Keywords: Clinicopathological, Hoarseness of voice, Vocal

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INTRODUCTION

The human voice is an exceptional gift, and in a world of a complex environment, it is almost impossible to think of a life without communication. The human voice is not only used for dialogue but to express various thoughts and emotions[1]. Various aspect of human voice includes crying, singing, and expression. Hoarseness is the term used to describe a change in normal voice quality. Hoarseness may imply breathiness, roughness, voice breaks, or unnatural changes in pitch. In other words, "Hoarseness is a symptom of utmost significance and calls for a separate consideration as a subject because of the frequency of its occurrence as a distant signal of malignancy and other conditions"[2]. Voice production in humans is a complex mechanism involving phonation, respiration, and articulation. Voice disorders are most commonly divided into functional and organic. The functional group of voice disorders involves voice abnormalities where vocal cord structure and Reinke's space morphology remain normal, and voice abnormalities are secondary to muscle tension disorders[3]. Evaluation of a patient with Hoarseness includes a careful history, physical examination, and in many cases, laryngoscopy. Any patient with Hoarseness lasting longer than two weeks in the absence of an apparent benign cause requires a thorough evaluation of the larynx by direct or indirect laryngoscopy. The management of Hoarseness

includes identification and treatment of any underlying conditions, vocal hygiene, voice therapy, and specific treatment of vocal cord lesions[4,5]. The common factors responsible for the development of benign lesions are vocal abuse, misuse, overuse, speaking in unnatural tones, exposure to various irritants like smoke, dust fumes, alcohol, etc. Allergy and infective conditions of the larynx (as Human papilloma virus in respiratory papillomatosis) are also responsible alone or in combination with other factors for the development of such lesions[6]. The objective of the study was to find incidence, clinical profile, common predisposing factors, and etiology of Hoarseness of voice.

MATERIALS AND METHODS

This cross-sectional study was conducted in the ENT department. A total of 100 patients presenting with Hoarseness of voice were included in the study irrespective of their age, sex, and duration of disease. A thorough history, clinical, and ENT examination were made. Vocal professionals were classified into four levels according to Kaufmann and Isaacson's classification. Level I (elite vocal performers), level II (professional voice users), level III (non -vocal professionals, Level IV (non-vocal non professionals). Routine investigations like CBC, Sugar, routine urine, X-ray chest- PA view, and X-ray soft tissue neck- AP and lateral view were done.

The larynx was examined by fiberoptic laryngoscopy and, if needed, by micro laryngoscopy followed by a biopsy if the suspicious-looking area was seen. Data were entered in Microsoft Excel. The data was further analyzed using SPSS version 21.

RESULTS

Total ENT was 12456 (7893 new and 4563 old). Out of this, 100 patients presented with Hoarseness of voice. Thus, the incidence calculated was 0.80 of all cases and 1.27% of new OPD cases.

Table 1: Basic Parameter

Age group (in years)	Number	Percentage
11-20	6	6
21-30	9	9
31-40	33	33
41-50	13	13
51-60	11	11
61-70	24	24
71-80	2	2
81-90	2	2
Gender		
Male	63	63
Female	37	37
Area		
Urban	29	29
Rural	71	71
Occupation		
Laborer	42	42
Housewife	32	32
Teacher	6	6
Vendor or hawker	5	5
Singer	4	4
Private job	6	6
Student	5	5

Hoarseness was seen mostly in the middle and elderly age group, with the majority of patients was in the 4th decade of life (33%). The age of patients ranged from 13 to 82 yrs (Mean age - 44.65 yrs). Out of 100

patient's majority were male patients (63%). Around 3/4th patients (71%) belonged to rural areas. More than half of the patients (52%) presented within 3 months of the appearance of the symptom.

Table 2: Etiology wise distribution

Etiology	Number	Percentage
Acute laryngitis	5	5
Vocal cord paralysis	23	23
Vocal nodule	15	15
Reinke's edema	5	5
Malignancy	17	17
Functional	4	4
Chronic non-specific laryngitis	12	12
Tb laryngitis	6	6
Trauma	3	3
Keratosi	3	3
Vocal polyp	7	7

Laborer class constituted the single largest group of patients (42%), followed by housewives (32%). Vocal professionals were categorized according to the classification by Koufman and Isaacson. Level I or the elite vocal performers (singers) 4 (4%), level II or the professional voice users (businessmen) 7 (7%), level

III or non-vocal professionals (teachers) 6 (6%), level IV or non-vocal nonprofessionals (laborer, housewives, students) 83 (83%). Vocal cord paralysis was the leading cause of Hoarseness seen in as many as 23% of patients. It was followed by malignancy (17%) and vocal nodule (15%).

Table 3: Predisposing factors for hoarseness

Predisposing factors	Number	Percentage
Smoking	66	66
Voice abuse	31	31
Gastroesophageal reflux disease	41	41
Upper respiratory infection	6	6
Trauma to neck	5	5
Thyroid surgery	3	3
Intubation	2	2
Systemic illness (TB, DM, thyroid disorders)	19	19
Idiopathic	13	13
Tobacco	33	33

Most of the patients with Hoarseness of voice were exposed to multiple predisposing factors, but smoking remains the single most important predisposing factor seen in as many as 66% of patients. GERD remains the second most important predisposing factor seen in 41% of patients.

DISCUSSION

In our study, 100 patients presented with Hoarseness of voice in a year. The incidence calculated was 0.80 of all cases and 1.27% of new OPD cases. In another study, the incidence of Hoarseness among total OPD was 0.45% and among new cases was 0.64%. In our study, the age of patients ranged from 13 to 82 yrs (Mean age - 44.65 yrs). The majority of patients were seen in the age group of 31 to 40 years (33%) and 61 to 70 years (24%). Baitha et al. also found the majority of patients (28.18%) in the age group of 31 to 40 years[5]. Mehta AS et al. stated majority (22.31%) group fall between the ages of 31 to 40 years[7]. This may be due to the vocal activeness of a person is seen mostly in this decade. All these findings are comparable to our study. Banjara H et al. stated that taking the variable of age into account. It is clear that laryngeal pathologies occur most frequently in the older age group because carcinoma and vocal fold paralysis being the most commonly found cause of vocal dysfunction in the elderly[8]. In our study, 71% of patients were from a rural background, and 29% were from an urban background. Our study correlates with the study of Baitha et al. with 75.5% patients with a rural background and 24.5% patients with urban background[5].

In our study, laborer or farmer comprised a majority of cases (42%), followed by 32% of housewives. Our study correlates with a study of Baitha et al. with around 57% laborers and housewives[5]. Kumar et al. also found laborers (24%) as the single largest group in their study[6]. The high incidence of Hoarseness among laborers in our study may be explained by the fact that our hospital is situated on the outskirts of the city and caters mostly to the village population comprising mostly of farm laborers[9]. In our study, vocal nodules were seen in 15% of cases, and they were the third most common cause of Hoarseness of voice. In all the cases, they were bilateral. Parikh reported vocal cord nodule as the most common finding (50%) among patients with chronic laryngitis, and the nodules were bilateral in 91% of cases[1]. In another study by Baitha et al., vocal cord nodules were seen in 12.72% of patients, and they were

bilateral in all the cases (100%)[5]

In our study, smoking was the commonest predisposing factor seen in as much as 66% of cases presenting with Hoarseness of voice. It was followed by GERD and voice abuse which were seen in 41% and 31% cases, respectively. In our study, around 3/4th patients belonged to rural areas, and most of them were laborers who have a habit of smoking bidis which might explain the high association between smoking and GERD. In a study by Pal et al., smoking was seen in (33%) cases followed by URI (24%), alcohol intake (22%), chewing tobacco (22%), and vocal abuse (17%). Similarly, in a study by Cowles SR et al. commonest habits noted were smoking in 108 cases (43%) followed by vocal abuse (31%), alcohol intake (29.48%), and tobacco or gutkha chewing (29.48%)[10]. These data are in concordance with our data.

CONCLUSION

Hoarseness may have several causes, ranging from minor infections to severe cancers. The genesis, risk factors, and clinical characteristics of the condition differ depending on the location.

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