

Clinical profile of hoarseness cases: A study from rural tertiary center

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Abstract

Introduction: hoarseness is alteration in the perceived quality of individual voice. It is invariably the earliest manifestation of various conditions affecting directly or indirectly the larynx ranging from benign to malignant lesions.

Material and methods: a prospective study was conducted on 100 patients presenting to the department of ENT with the history of hoarseness. Different etiologies and their incidence were studied. And the relationship of the etiological factors with occupation and personal habits was studied.

Observations and results: majority, 72% of the patients was male, 30% of the patients were in the age group of 41-50years. tobacco intake in the form of smoking was seen in 59% of cases. 50% of the patients were farmers. Infective etiology was seen in 39% cases, malignancy was observed in 21% cases, vocal cord palsy in 14%

cases, vocal cord nodules in 8%, vocal polyp in 8%, laryngeal papilloma and contact ulcer constituted one case each, laryngeal trauma in 6% cases.

Conclusion: the etiology of hoarseness includes a wide range of spectrum ranging from trivial infections to malignancies. A sequential history physical examination and appropriate investigations can lead to early diagnosis and management.

Keywords: Hoarseness, Smoking, Alcohol, Voice Abuse.

Introduction

Voice is the unique identity of a person. The larynx houses the vocal folds which constitute the vibrator that generates the voice during speaking. Sound is produced from the airflow from the lung, causing the vocal cord epithelium to vibrate: the resultant fluctuations in the air pressure produce sound waves.¹

Inflammation of the vocal cords can result from vocal misuse or abuse, exposure to irritants and allergy. Chronic inflammatory conditions can also affect larynx like tuberculosis and sarcoidosis.

Laryngopharyngeal reflux disease is now a well-defined clinical entity that is associated particularly with posterior glottic and arytenoid inflammation.

Hoarseness is usually the first manifestation of various conditions affecting the larynx in either benign or malignant lesions.²

In developing countries like India, the low socioeconomic status, poor nutrition, poor general health of population, voice abuse, smoking and drinking habits, unhealthy environment and different social customs definitely influence the incidence of hoarseness.³

Voice therapy or voice training refers to a variety of nonsurgical techniques used to improve the quality of voice.

Surgical intervention for hoarseness is indicated when conservative management fails, when malignancy is suspected or airway is compromised.

Advent of micro laryngoscopy and end laryngeal microsurgery along with fiber optic scopes has greatly improved the diagnostic ability and treatment outcomes of the patients.

This study was undertaken with an aim to study the etiological factors like occupation, personal habits and their incidence in cases of hoarseness and their relationship with gender and age.

Material and methods

This study was conducted on 100 patients from September 2014 to September 2016 in the department of Ent. All patients presenting to the department with complaint of hoarseness were included in the study.

Exclusion criteria

1. Age group below 5 years.
2. Other voice disorders like Rhinolalia clausa, Rhinolalia Aperta, articulation disorders
3. Central nervous system causes like bulbar palsy, multiple sclerosis, Parkinson's disease.

A detailed complete clinical history of each patient was taken. All patients were thoroughly examined specially focusing on examination of neck and indirect laryngoscopy. Fiber optic laryngoscopy and direct laryngoscopy was done whenever required. Patients were managed either conservatively or surgically as per the diagnosis.

Observations

Table 1: Age distribution

Age in years	No of patients
10-30	24
31-50	48
51-75	33

Table 2: Gender distribution

Male	Female
72%	28%

Table 3: Geographical distribution

Rural	Urban
79%	21%

Table 4: Occupation

Occupation	Number	Percentage
Farmer	50	50%
Housewives	21	21%

Businessman	8	8%
Student	7	7%
Govt. Employee	6	6%
Teacher	3	3%
Shopkeeper	2	2%
Preacher	1	1%
Singer	1	1%
Clerk	1	1%
Total	100	100%

Table 5: Personal History

Personal history	Patients	Percentage
Smoking	59	59%
Alcohol	23	23%
Tobacco	11	11%
Vocal abuse	16	16%

Table 6: Predisposing Factors (A)

Age Yrs	Smk	Alk	Tobacco	V.A	Uri	Gerd	Lpr
10-30	6	1	3	5	3	0	1
31-50	32	14	22	9	2	4	8
51-75	16	8	8	1	1	5	0

Table 7: Predisposing Factors(B)

Gender	Smk	Alk	Tobacco	V.a	Uri	Gerd	Lpr
Male	57	23	29	9	2	7	3
Female	2	0	6	7	3	3	7

Table 8: Final Diagnosis

Diagnosis	No. Of Patients	Percentage of Patients
A) Acute	16	16%
B) Chronic	23	23%
1. non-Specific	17	17%
2. Specific		
• Tuberculosis	1	1%
• Reinke'soedema	4	4%
• Laryngopyocele	1	1%

Table 9 : Neoplastic

Diagnosis	No. Of Patients	Percentage of Patients
1. Benign		
A) V. N	10	10%
B) V. P	08	08%
C) laryngeal Papilloma	1	1%
D) Contact Ulcer.	1	1%

2. Malignant (Laryngeal Carcinoma)	21	21%
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Table 10: Traumatic

Diagnosis	No. Of Patients	Percentage of Patients
Road traffic accident		
A) V.C Odema	3	3%
B) V.C hematoma	1	15
Intubation granuloma	1	1%
Laryngeal web.	1	1%

Table 11: Vocal Cord Palsy

Diagnosis	No. Of Patients	Percentage of Patients
Idiopathic	6	6%
Pulmonary tuberculosis	3	3%
Bronchogenic carcinoma	3	3%
Papillary carcinoma of thyroid	1	1%
Iatrogenic (post-surgical)	1	1%

Results

The age of the patients in the study varied from 09-75 years. The maximum numbers of patients were found in the age group of 41-50 years (TABLE 1).

In our study males outnumbered females 72% as opposed to 28% females (TABLE 2).

Patients with hoarseness were predominantly from a rural area comprising 79% cases and only 21% were from urban areas (TABLE 3).

In our study we found foreign body sensation in 16% cases followed by pain in the throat in 10% and painful phonation in 6%.

As far as occupation was concerned farmers constituted the single largest group of patients in our study that is 50% followed by house wives 21%, business man 8% and students 7%. (TABLE 4)

In our series, there was a high incidence of smoking in 59% and vocal abuse in 10% cases. We observed smoking to be a predisposing factor in all the age groups though middle age tops the list. Smoking is present in 57% of males and only 2% of the females. (TABLE 5)

LPR was found more predominantly in females as compared to males in our study. (TABLE 6)

Chronic laryngitis is the most common cause of hoarseness of voice present in 24% of cases. Laryngeal malignancy constituted the second most common cause of hoarseness in our study. (TABLE 7) Chronic laryngitis was associated with tobacco intake in 59% of patients and with LPR in 10% of cases (TABLE 8). Neoplastic etiology was present in 41% cases, 20% cases were benign and 29% were malignant¹⁰ (TABLE 9). Vocal nodules were found in 10% of cases. Vocal polyps were seen in 8% of cases

We had 6 cases under the category of traumatic causes of hoarseness of voice, 4 cases were reported with

history of road traffic accidents and hoarseness in voice, 3 out of these had diffuse vocal cord edema and one had vocal cord hematoma (TABLE 10). We also observed one case of intubation granuloma and one case of laryngeal web,

There were 14% cases of vocal cord palsy, 3 were diagnosed as cases of tuberculosis and 3 as cases of Bronchogenic carcinoma (TABLE 11).

Discussion

The age of the patients in the study varied from 09-75 years. The maximum numbers of patients were found in the age group of 41-50 years. Our study is comparable to Kataria et al (2015) who also reported maximum patients of the same age group.⁴The higher age range can be explained on the basis of the fact that smoking, alcohol intake and tobacco chewing is more common in this age group. Also history of vocal abuse in our study corresponds to same age group.

In our study, males outnumbered females, 72% as opposed to 28% females. This can be explained by the fact that there is increased prevalence of smoking, alcohol intake and tobacco chewing in males as compared to females. This corresponds to the study of Parikh (1991).⁵

Patients with hoarseness were predominantly from rural area comprising of 79% cases and only 21% were from urban area. This is because our hospital mainly caters to rural population. This is in accordance to the results of Sharma et al (1992-1993).⁶

As regards the duration of symptoms at the time of presentation in the present study, 67% of the patients found to present within 0-3 months of appearance of symptoms and only one percent presented with hoarseness for more than one year. The observation is comparable to Kataria et al who reported that most of the

patients were having duration of hoarseness of less than three months (48.33%).⁴

Shaw concluded that chronic mucosal irritation by heavy smoking, excessive intake of alcohol and chewing of tobacco in Asian countries play significant role in hoarseness of voice.⁷ In our series, there was high incidence of smoking in 59% and vocal abuse in 10% cases.

We observed smoking to be a predisposing factor in all the age groups though middle age tops the list. Smoking is present in 57% of males and only 2% of the females.

LPR was found more predominantly in females as compared to males in our study. Same has been reported by Wani et al.⁸

Chronic laryngitis is the most common cause of hoarseness of voice present in 24% of cases; it correlates with the study of Baitha et al who reported 21.8 % cases of laryngitis.⁹Our study also relates to Behera et al who also found chronic laryngitis as the most common cause of change in voice.¹⁰ Infective etiology constituted 40% cases, 16% were acute in presentation. Laryngeal malignancy constituted second most common cause of hoarseness in our study, this correlates with studies of Kumar and Anwar^{11,12}.

We observed one case of intubation granuloma and one case of laryngeal web, which relates with the study of Hegde et al who reported laryngeal web in 2 cases.¹³

Conclusion

The high prevalence of bidi smoking, poor nutrition, low socioeconomic status, diverse food habits, vocal abuse, unhealthy environment, along with the demographic location of the institute catering to rural population are responsible for the high incidence of laryngeal lesions in this region.

It is well beyond words how much we can help a patient by making an early diagnosis of laryngeal malignancy. Benign lesions like vocal nodule and vocal polyp are a cause of progressive hoarseness. Pathological examination is an important diagnostic tool for the final diagnosis of different lesions, while laryngoscopy is the best tool for clinical examination of larynx. Advent of microlaryngoscopy and endolaryngeal microsurgery along with fiber-optic scopes has greatly improved the diagnostic ability and treatment outcomes of such patients.

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