

Susceptible and clinical profile of patients presenting with hoarseness of voice

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Abstract

There are many causes of hoarseness. The most common causes are acute laryngitis which usually occurs due to swelling from a common cold, upper respiratory tract viral infection, or irritation caused by excessive voice. Vocal nodules are common in children and adults who raise their voice in work or play. A common cause of hoarseness in older adults is gastroesophageal reflux, Smoking is another cause of hoarseness. **Methods:** Observation was conducted of 50 patients attending the outpatient and the indoor of the M.G. M. Medical College and L.S.K. Hospital, Kishanganj, during the period of January 2016 to December 2016. **Results:** Total 50 patients were distributed age and sex wise, 86% were male and 14% were female. Maximum number of cases were found in age group between 31 to 40 years. All the cases presenting to Otorhinolaryngology department with history of hoarseness were included in this study. **Conclusion:** Apart from change in voice other common symptoms were cough, fever and vocal fatigue. Signs of chronic laryngitis were noted in roughly half of the cases. Early diagnosis of underlying pathology for prevention and accurate management.

Key Word: hoarseness, voice.

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Received Date: 19/02/2018 Revised Date: 23/03/2018 Accepted Date: 14/04/2018

DOI: <https://doi.org/10.26611/1016614>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
28 April 2018

INTRODUCTION

Voice disorders can be divided into 2 broad categories: organic and functional.¹ The distinction between these broad classes stems from their cause, whereby organic dysphonia results from some sort of physiological change in one of the subsystems of speech (for voice, usually respiration, laryngeal anatomy, and/or other parts of the vocal tract are affected). Conversely, functional dysphonia refers to hoarseness resulting from vocal use.² Organic dysphonia can be subdivided into structural and neurogenic; neurogenic dysphonia is defined as impacted functioning of the vocal structure due to a neurological problem in contrast, structural dysphonia is defined as

impacted functioning of the vocal mechanism that is caused by some sort of physical change (e.g. a lesion on the vocal folds).² an additional subcategory of functional dysphonia recognized by professionals is psychogenic dysphonia, which can be defined as a type of voice disorder that has no known cause and can be presumed to be a product of some sort of psychological stressors in one's environment.^{2,3}

Organic dysphonia:

- Laryngitis (Acute: viral, bacterial) - (Chronic: smoking)
- Neoplasm (Premalignant: dysplasia) - (Malignant: Squamous cell carcinoma)
- Trauma (Iatrogenic: surgery, intubation) - (Accidental: blunt, penetrating, thermal)
- Endocrine (Hypothyroidism, hypogonadism)
- Haematological (Amyloidosis)
- Iatrogenic (inhaled corticosteroids)

Functional dysphonia:

- Psychogenic
- Vocal misuse
- Idiopathic

Causes of dysphonia can be divided into five basic categories

Neoplastic/structural: Abnormal growths of the vocal fold tissue.

1. Inflammatory: Changes in the vocal fold tissue as a result of inflammation.
2. Neuromuscular: Disturbances in any of the components of the nervous system that control laryngeal function.
3. Associated Systemic Diseases: systemic diseases which have manifestations that affect the voice.
4. Technical: Associated with poor muscle functioning or psychological stresses, with no corresponding physiological abnormalities of the larynx.

Located in the anterior portion of the neck is the larynx (also known as the voice box), a structure made up of several supporting cartilages and ligaments, which houses the vocal folds.^[4] In normal voice production, exhaled air moves out of the lungs and passes upward through the vocal tract.^[4] At the level of the larynx, the exhaled air causes the vocal folds to move toward the midline of the tract (a process called adduction). The adducted vocal folds do not close completely but instead remain partially open. The narrow opening between the folds is referred to as the glottis.^{4,5} As air moves through the glottis, it causes a distortion of the air particles which sets the vocal folds into vibratory motion. It is this vibratory motion that produces phonation or voice.^[5] In dysphonia, there is an impairment in the ability to produce an appropriate level of phonation. More specifically, it results from an impairment in vocal fold vibration or the nerve supply of the larynx.⁵

METHODS

Type of study: Observational Study.

Place of Study: Present study was conducted at the outpatient and inpatient of the Department of E.N.T. M.G.M. Medical College and L.S.K. Hospital, Kishanganj. Bihar.

Study Population: Present study consists total 50 patients attending the outpatient and inpatient of the Department of ENT.

Study period: Present study was conducted during the period of January 2016 to December 2016.

Inclusion criteria: In this study only those cases were taken for Microlaryngoscopy who had hoarseness which did not respond to medical treatment and where the lesion could not be clearly evaluated due to marked overhang of epiglottis or in cases with marked gag reflex where the full view of the larynx could not be obtained.

RESULTS

Table 1: Age Distribution

Age in years	Total	(%)
0-15	1	2
16-30	3	6
31-40	22	44
41-50	18	36
51-60	6	12
Total	50	100

Table 2: Age and Sex Distribution

Age in years	Male		Female		Total no of patients	(%)
	No of Cases	(%)	No of Cases	(%)		
0-15	1	2	0	0	1	2
16-30	2	4	1	2	3	6
31-40	20	40	2	4	22	44
41-50	15	30	3	6	18	36
51-60	05	10	1	2	6	12
Total	43	86	7	14	50	100

Table 3: Other symptoms

Symptoms	No of Patient	(%)
Change in voice	50	100
Fever	14	28
Weight loss	9	18
Cough	16	32
Difficulty in swallowing	8	16
Neck Swallowing	5	10
Vomiting	2	4
Respiratory distress	3	6
Painful vocalisation	2	4
Noisy respiration	1	2

Table 4: Incidence of Disease

Disease	No of Patients	(%)
Cancer Larynx	9	18
Vocal Nodule	7	14
Chronic Laryngitis	4	8
Vocal polyps	3	6
Laryngeal papilloma	4	8
Vocal cord paralysis	3	6

DISCUSSION

This present study was conducted on 50 patients attending the outpatient and the indoor of the Department of E.N.T. M.G.M. Medical College and L.S.K. Hospital during the period of April2016 to March2017.

Table no 1 shows age wise distribution of the present study. We distributed total 50 patients in five age groups. 31- 40 years of age group consists maximum 44% patients. Table no 2. shows total 50 patients were distributed age and sex wise, 86% were male and 14% were female. Male and female ratio was 6.14:1. Table no3. shows the distribution of findings of different

symptoms in patients. We found change in voice among all patients(100%).

The individual diseases observed in the study are discussed under different subheads. Disease wise incidence in 25 patients is shown in Table no 4. All the patients were subjected to Microlaryngoscopic observation and endolaryngeal microsurgery. The study of angio-architecture of the vocal cords under the magnified view showed that 7 (14%) had grade I changes (Capillaries fine and regular) and 3 (6%) patients having large nodules showed grade II (Capillaries coarse and irregular) changes. In none of the cases grade III (Capillaries very coarse, irregular and coiled) changes were observed. According to the size of the vocal nodules observed under MLS view they were divided as small measuring approximately 2 mm size (small pin head), as medium those measuring (2-4) mm the medium pin head size and large (4-6) mm size the large pin head size. The majority of the vocal nodules were of medium size. 6 (12%) patients had bilateral vocal nodules where as 4 (8%) showed unilateral nodules. Chopra and Kapoor (1997) reported the incidence of benign glottic lesions undergoing microlaryngeal surgery in the age of 20 - 50 yrs. to be 73.14%. Contrary to this, a low incidence of 58% in the above age group was noted by Saxena and Gode (1975) in their study on cases subjected to Microsurgery of the larynx. Both these studies involve a limited group of patients in whom focus of attention is benign glottic lesions or microsurgery of larynx, which is not the case with our study.

A male : female ratio of 2:1 was observed in this study. Our finding is exactly in confirmation with that of Parikh (1991). Other studies by Deshmukh (1976), Vrat *et al* (1981) and Mehta (1985) also showed male predominance. As far as occupation is concerned, Labourers constituted the single largest group of patients (36.36%) in our study followed by housewives comprising 21.81% cases. According to Chopra and Kapoor (1997) only 5.97% their patients presenting with benign glottic lesions (for microlaryngeal surgery) were farmers. The high incidence of hoarseness among labourers. Hirschberg *et al* (1995) have reported higher incidence of voice disorders among the urban population. However in our study hoarseness of voice was predominantly seen in rural inhabitant with rural : urban ratio of 3:1. (Reason already mentioned above). Duration of hoarseness ranged from 1 day (acute onset cases) to 5 yrs. and 50% patients had duration of hoarseness in months. Chopra and Kapoor (1997) have noted 68.65% patients with duration of hoarseness of less than one year. The present study on hoarseness of voice included all the

patients with symptom of change in voice (100%). Mehta (1985) and Parikh (1991) have also done similar studies and noted that 100% cases presented with hoarseness. As in our study the other associated symptoms like cough, dyspnoea, dysphagia, throat pain, weight loss etc. were noticed by Parikh (1991) also. In the study by Shah (1973) on patients with benign growths of larynx incidence of hoarseness was reported to be 93% and the other symptoms were cough, painful swallowing, difficulty in swallowing, fever, lump in throat and respiratory distress.

CONCLUSION

All the patients were subjected to Microlaryngoscopic observation and endolaryngeal microsurgery. The study of angio-architecture of the vocal cords under the magnified view showed that 7 (14%) had grade I changes (Capillaries fine and regular) and 3 (6%) patients having large nodules showed grade II (Capillaries coarse and irregular) changes. The majority of the vocal nodules were of medium size. 6 (12%) patients had bilateral vocal nodules where as 4 (8%) showed unilateral nodules. No post-operative complication' was observed.

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Source of Support: None Declared
Conflict of Interest: None Declared