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A PROSPECTIVE STUDY OF CLINICOPATHOLOGICAL EVALUATION OF THE PATIENTS WITH HOARSENESS OF VOICE

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Abstract

Introduction: Hoarseness of voice is a defect of voice quality. Any condition that alters the regular, repetitive synchronous vibrations of vocal cord in conjunction with the breath stream that activates them may create the sounds that are called hoarseness. Hoarseness is defined as rough voice resulting from variations of intensity or periodicity of consecutive sound waves. The vocal apparatus consists of the larynx, respiratory system, and the supraglottic vocal tract.

Materials and methods: A prospective study conducted in Department of ENT, Department of ENT, Rangaraya Medical College, Kakinada, AP from January 2023 to October 2023. Patients presenting with hoarseness of voice to the department of ENT were included in the study. The patients who fulfilled the inclusion criteria were included in the study. Total 144 patients were observed. Study procedure was explained to each patient and informed consent was obtained. The data was expressed in number, percentage, mean and standard deviation. Statistical Package for Social Sciences (SPSS 20.0) version was used for analysis.

Results: Total 144 patients were included in the study. Male were more compared to females (table 1). Maximum number of patients were in the age group between 51-60 years (table 2). Maximum patients had benign lesions 23.6% (Table 3). 25% were smokers and 55.6% patients had no irritant exposure (Table 4). 33.3% patients had VC polyp and 6.70% had VC keratosis (table 5). 1% had history of direct trauma (table 6, graph 1). 36.1% patients did not have any associated symptoms along with hoarseness of voice (Table 7). Maximum patients 61.1% had benign and 38.9% patients had malignant lesions (table 8). 61.1% were manual labourers in comparison to other occupations (Table 9).

Conclusion: A person's voice is the most important tool used for his day today communication and is a part of his being. Any change in voice should be an alarm bell for both the patient as well as the doctor. The clinician should immediately go for direct laryngoscopy if a definitive diagnosis cannot be made by indirect laryngoscopy or fibreoptic laryngoscopy. Associated

clinical features with hoarseness of voice included heartburn, weight loss, dysphagia, dyspnoea, nasal regurgitation, stridor, cough, CAD and hawking sensation.

Key Words: Hoarseness of voice, fibreoptic laryngoscopy, indirect laryngoscopy, dysphagia, dyspnea.

INTRODUCTION

Hoarseness of voice is a defect of voice quality. Any condition that alters the regular, repetitive synchronous vibrations of vocal cord in conjunction with the breath stream that activates them may create the sounds that are called hoarseness. Hoarseness is defined as rough voice resulting from variations of intensity or periodicity of consecutive sound waves. The vocal apparatus consists of the larynx, respiratory system, and the supraglottic vocal tract.[1]

Hoarseness can be breathiness, roughness, voice breaks or unnatural changes in pitch. Garrett et al., 1999 has stated that Complaints of hoarseness may represent serious disease, therefore, should not be ignored. Chevalier Jackson has stated that “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”. Hoarseness of voice is one of the commonest symptoms in otolaryngological practice and it indicates diseases ranging from totally benign condition to the most malignant condition. Few of the most common etiologies of hoarseness of voice are acute laryngitis, chronic laryngitis, polyps, cysts and nodules, laryngeal carcinoma, paralysis of the vocal cords, functional causes. Other causes that can lead to hoarseness of voice are medications like diuretics, anticholinergics and antihistamines.[2]

Hormonal disorders like thyroid and growth hormone problems, Anabolic steroids, Intubation (during anaesthesia) and ageing. Laryngeal visualization is necessary to determine the status of the vocal folds. It can be done either with indirect, direct (both flexible and rigid) laryngoscopy or with stroboscopy. As hoarseness is a common presentation in ENT OPD, its evaluation using appropriate tools is of at most importance.[3]

The management of Hoarseness includes identification and treatment of any underlying conditions, vocal hygiene, voice therapy, and specific treatment of vocal cord lesions. 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.[4] 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. The objective of the study was to find incidence, clinical profile, common predisposing factors, and etiology of Hoarseness of voice.[5]

MATERIALS AND METHODS

Study settings and study period

A prospective study conducted in Department of ENT, Department of ENT, Rangaraya Medical College, Kakinada, AP from January 2023 to October 2023.

Inclusion criteria

- Patients presenting with hoarseness of voice to the department of ENT.

Exclusion criteria

- Voice disorders other than hoarseness like rhinolalia aperta, rhinolalia clausa, snoring, stertor etc.
- Patient with mental retardation and patient with mental illness who are noncooperative.
- Patient was not available for follow up.
- Severely debilitated and unconscious patients.
- Children < 10 years.

Procedure:

The patients who fulfilled the inclusion criteria were included in the study. Total 144 patients were observed. Study procedure was explained to each patient and informed consent was obtained.

Statistical analysis:

The data was expressed in number, percentage, mean and standard deviation. Statistical Package for Social Sciences (SPSS 20.0) version was used for analysis.

RESULTS

Total 144 patients were included in the study. Male were more compared to females (table 1). Maximum number of patients were in the age group between 51-60 years (table 2). Maximum patients had benign lesions 23.6% (Table 3). 25% were smokers and 55.6% patients had no irritant exposure (Table 4). 33.3% patients had VC polyp and 6.70% had VC keratosis (table 5). 1% had history of direct trauma (table 6, graph 1). 36.1% patients did not have any associated symptoms along with hoarseness of voice (Table 7). Maximum patients 61.1% had benign and 38.9% patients had malignant lesions (table 8). 61.1% were manual labourers in comparison to other occupations (Table 9).

Gender	Frequency (Percentage)
Male	92 (64%)
Female	52 (36%)

Table 1: Gender distribution

Age group	Frequency (Percentage)
20-30	4 (5.6%)
31-40	18 (25%)
41-50	12 (16.6%)
51-60	17 (23.6%)
61-70	17(23.6%)
71-80	4 (5.6%)

Table 2: Age distribution

Clinical Diagnosis	Frequency (Percentage)
Acute Laryngitis	10 (6.9%)
CA Glottis	20 (13.9%)
CA Hypopharynx/PFF	6 (4.2%)
CA Supra glottis	6 (4.2%)
Benign lesions	34 (23.6%)
Others	4 (2.8%)
LPRD	32 (22.2%)
VC Fixity Due to Other Malignancies	14 (9.7%)
VC Palsy	18 (12.5%)

Table 3: Distribution of clinical diagnosis

Addictions	Frequency (Percentage)
Alcoholic	4 (2.8%)
Smoker	36 (25%)
Pan Chewing	6 (4.2%)
Smoker + Alcoholic	16 (11.1%)
Smoker + Pan chewing	1 (1.4%)
Nil	80 (55.6%)

Table 4: Association of Hoarseness of Voice with Exposure to Irritants/Addictions

Benign	Frequency (Percentage)
VC Polyp	10 (33.30%)
VC Cyst	6 (20%)
VC Nodule	8 (26.70%)
VC Keratosis	2 (6.70%)
Early Reinke's Edema	6 (20%)

Table 5: Benign Causes of Hoarseness of Voice

History of Direct Trauma	Frequency (Percentage)
Yes	2 (1%)
No	142 (99%)

Table 6: Association of hoarseness of voice and history of direct trauma

Associated Symptoms	Associated Symptoms
Nil	52 (36.1%)
Dysphagia	14(9.7%)
Dyspnoea	6 (4.2%
Stridor	4 (2.8%)
Heartburn	32 (22.2%)
Weight loss	16 (11.1%)
Loss of apatite	4 (2.8%)
Nasal regurgitation	6 (4.2%)
Hawking sensation	2 (1.4%)
Cough	4 (2.8%)
Cad	2 (1.4%)
Others	2 (1.4%)

Table 7: Hoarseness of voice and associated symptoms

Type of lesions	Frequency (Percentage)
Benign conditions	88(61.1%)
Malignant lesions	56 (38.9%)

Table 8: Benign lesions VS malignant lesions

Occupation	Frequency (Percentage)
Teacher	30 (20.83%)
labour	88(61.1%)
Others	26 (18.0%)

Table 9: Association of Hoarseness of Voice and Occupation

DISCUSSION

In the present study out of 144 cases, 64% (92) are male and 36% (52) are female. A study that was done by Gaurav Kataria et al. in which the study population was 180 the male: female ratio was found to be 1.7:1. Majority of literature on hoarseness of voice also concluded that there was a male preponderance in general. In contrast, Brodnitz has reported an almost equal number for both sexes with a slight preponderance of males but the individual conditions exhibited marked difference.[6]

The present study majority of patients were in the age group of 31-40 years (25%) In a study conducted by Gaurav Kataria et al. which was done on 180 patients, showed that the age group of 31-40 years (29.44%) as a majority group that was affected. And a study conducted by Baitha et al. also found that the majority of the patient 28.18% in the age group 31-40 years. Another study by Kumar et al. concluded that majority of the patients were in the age group of 31-40 years (31%). A study done by an Indian Babu VS also reported that majority of patients 22.31% were in the age group of 31-40 years.[7]

In the present study it was found that people who didn't have any addictions were (55.50%) and among people who have addictions, smoking 25% was the majority followed by smoking and alcoholic 11.10%, pan chewing 4.20%, alcoholic 2.80%, smoking and pan chewing 1.40%. A study by Gaurav et al. found that smoking habit was seen in 41.67%8. A study by Banjara et al., showed the incidence of smoking was 43% of the total study population. In a study by Broek et al., he has also found that cigarette smoke was the important predisposing factor for hoarseness. According to Hansa et al. commonest habits contributing to hoarseness of voice was smoking in 108 cases (43%) followed by vocal abuse (31%), alcohol intake (29.48%) and tobacco/ gutkha chewing (29.48%).[8]

In the present study of it was found that the most common benign cause of hoarseness of voice was vocal cord polyp 33.30% followed by vocal cord nodule 26.70%, vocal cord cyst and Reinke's edema accounting for 20% each, vocal cord keratosis being 6.70%. In our study of benign lesions of larynx, vocal cord polyps were the commonest. This is in accordance with Dikkers et al. Shaw et al. had an incidence of vocal polyps of 71.2%, Kambic et al. had an incidence of 68.3%. However Chopra et al. had an incidence of 16% only. In their series, the incidence of vocal nodules was 33.33%.[9,10]

CONCLUSION

A person's voice is the most important tool used for his day today communication and is a part of his being. Any change in voice should be an alarm bell for both the patient as well as the doctor. The clinician should immediately go for direct laryngoscopy if a definitive diagnosis cannot be made by indirect laryngoscopy or fibreoptic laryngoscopy. Associated clinical features with hoarseness of voice included heartburn, weight loss, dysphagia, dyspnoea, nasal regurgitation, stridor, cough, CAD and hawking sensation.

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