Bangladesh J Otorhinolaryngol 2013; 19(1): 14-17

Original Article

Aetiological factors of hoarseness in patients attending at Kathmandu University Hospital

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Abstract

Objective: To evaluate the aetiological factors of hoarseness.

Methods: This is a prospective, non- randomized and longitudinal study conducted from 1st august 2011 to 1st august 2012 in department of otorhinolaryngology of Kathmandu university Hospital, Dhulikhel, Nepal. All the patients with history of hoarseness underwent clinical examination, routine as well as special investigation to find the diagnosis. The final results were analyzed by simple manual analysis with frequency and percentage using Microsoft Excel software 2007.

Results: There were total 280 patients included in the study. Among them the age groups of 21 – 30 years and 31 – 40 years were mainly suffer from hoarseness. Similarly, among 280 patients 200 (71.45%) were males whereas 80 (28.6%) were females with male to female ratio of 2.5:1.. The most common cause as per the distribution was acid peptic laryngitis with frequency of 37.8% whereas tuberculosis of larynx, papillary carcinoma of thyroid and papilloma of vocal cord accounts for only 0.4% each.

Conclusion: There was etiological variation in hoarseness ranging from simple laryngitis to malignancies. So it is important not to ignore the hoarseness and precise history, examination and investigations should be done.

Key words: *hoarseness; laryngitis; tuberculosis*

Introduction

Hoarseness is one of the common symptoms encountered by otorhinolaryngologists in their practice. It is the term uses to describe a change in normal quality of voice which is caused by abnormal vocal cord movement[1,2]. The hoarseness could be divided into acute or chronic[3]. The acute onset is more common and mainly caused by inflammation like acute laryngitis whereas other cause could be viral infection, smoking, voice abuse, laryngeal trauma or thyroid surgery[4]. The chronic onset is mainly caused by vocal cord nodule, polyp, laryngeal papillomatosis, tumor of vocal cord, functional dysphonia, smoking, voice abuse, laryngopharyngeal reflux disease, post nasal drip, voice abuse, neoplasm of thyroid, esophagus, lung, chronic granulomatous disease like tuberculosis or systemic disease like diabetes mellitus[5-7]. The complaints of hoarseness may imply serious disease, so it should not be ignored[8].

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As per said by Chevalier Jackson "Hoarseness is a symptom of utmost significance and should be reacted promptly as the frequency of its occurrence as a distant signal of malignancy and other conditions"

The main aim of our study is to evaluate the frequency and aetiological factors of hoarseness.

Methods

This is a prospective, non- randomized and longitudinal study conducted from 1st August 2011 to 1st August 2012 in the department of otorhinolaryngology of Kathmandu university Hospital, Dhulikhel, Nepal. All the patients who presented with history of hoarseness were included in the study. The detailed history, clinical examination, routine as well as special investigation (flexible nasopharyngo-laryngoscopy and direct laryngoscopy) was performed to find the diagnosis. The final results were analyzed by SPSS 11.5 software.

Result

There were total 280 patients included in the study. Among them the age groups of 21 – 30 years and 31 – 40 years were mainly suffer from hoarseness as shown in table-I.

Table-I

Age distribution of patients (n=280)

Age (years)	Number of patients (%)
0 -10	1 (0.4%)
11 – 20	28 (10%)
21 -30	78 (27.8%)
31 -40	80 (28.6%)
41 – 50	41 (14.6%)
51 – 60	27 (9.6%)
>60	25 (8.9%)

Similarly, among 280 patients 200 (71.45%) were males whereas 80 (28.6%) were females with male to female ratio of 2.5: 1 as shown in table 2. The table 3 showed the distribution of hoarseness as per etiology. Among them, the most common cause was acid peptic laryngitis with frequency of 37.8% whereas tuberculosis of larynx, papillary carcinoma of thyroid and papilloma of vocal cord accounts for only 0.4% each.

Table-II

Sex distribution of patients (n=280)

Sex	Number of patients (%)
Male	200 (71.4%)
Female	80 (28.6%)

Table-III

Distribution of patients according to etiology (n=280)

Etiological factors	Number (%)
1. Inflammatory	
Acute laryngitis	97 (34.6%)
a. Chronic non specific laryngitis	
Acid peptic laryngitis	106 (37.8%)
Chronic simple laryngitis	27 (9.6%)
Vocal nodule	12 (4.3%)
Reinke's edema	7 (2.5%)
Vocal polyp	2 (0.7%)
b. Chronic specific laryngitis	
Tuberculosis of larynx	1 (0.4%)
2. Neoplastic	
Carcinoma larynx	14 (5%)
Papillary carcinoma thyroid	1 (0.4%)
Papilloma of vocal cord	1 (0.4%)
3. Neurological	6 (2.1%)
4. Traumatic	
Intubation granuloma	2 (0.7%)
5. Endocrinal	
Hypothyroidism	4 (1.4%)

Discussion

In this study, the frequency of hoarseness in age group ranged from 21 – 40 years was

56.4% which is similar to study performed by Baitha S et al[9], Kumar H et al[10], Saeed M and Mian FA[11], but differs from the study performed by Khan FA et al[12] in which maximum number of patients with hoarseness falls within 5 -15 years. The maximum number of patients with hoarseness in our study was within productive age group because they were mostly involved in voice abuse and also more concerned regarding their problem.

In our study, the male: female ratio was 2.5:1, like that of study performed by Kumar H et al[10], Baitha S et al,[9] Saeed M and Mian FA[11]and Banjara H et al[13] but in contrast with study done by Brodnitz FS[14] which showed almost equal number of male to female ratio. Such a huge difference between male and female in our study could be because of male dominated society and they involved in smoking, alcoholism, exposure to pollutant and voice abuse whereas female from rural areas are unaware of their health problem.

In the present study, the frequency of acid peptic laryngitis was 37.8% which contrast with the study performed by Baitha S et al[9] which showed only 1.81%. Such higher frequency in our study could be because most of our patients suffer from gastro-esophageal reflux disease.

Likewise, the frequency of acute laryngitis was 34.6% in our study which is comparable to study performed by Baith S et al[9] and Khan FA et al[12] but contrast with the study performed by Kumar H et al[10].

The frequency of chronic simple laryngitis was 9.6% in our study which is similar to other studies[9-15]. The frequency of vocal nodule, Reinke's edema and vocal polyp was 4.3%, 2.5% and 0.7% respectively. The findings were different from other studies which showed somehow higher frequencies of these diseases[9, 10,12].

In our study, the frequency of laryngeal tuberculosis was only 0.4% which was much lower than the study performed by Kumar H et al[10], Saeed M and Mian FA[11]and Iqbal K et al[16]. The reason could be because of more prevalence but early diagnosis and treatment of pulmonary tuberculosis in our region.

The neoplastic and neurological cause reported to be 5.8% and 2.1% in our study. The frequencies were lower than other different studies[9,12,17].

In our study, the frequency of intubation granuloma was 0.7%. The results were comparable to study performed by Baitha S et al[9] but very lower than the other studies[11,18-21]. The lower frequency in our study could be timely elective tracheostomy of needy patients.

The hypothyroidism was 1.4% in our study like that of Saeed M and Mian FA[11] but differ from Ahmed B et al[22] which showed 83.3%. It could be in our place the prevalence of hypothyroidism is not so high.

Conclusion

There was variation in etiologies in hoarseness ranging from simple laryngitis to malignancies. So it is important not to ignore the hoarseness and precise history, examination and investigations should be done.

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