

A Study of Causes and Clinicopathological Changes of Patients Presented with Hoarseness of Voice in the ENT Department of Hilla Teaching General Hospital, Babylon, Iraq

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Abstract

Background: Hoarseness of voice (HOV) is defined as abnormal changes in the quality of voice. It may be caused by many diseases related to the upper aerodigestive tract system. Proper knowledge about the causes and clinicopathological changes leading to HOV is very important for the early detection and treatment of the causative pathology. **Objective:** To investigate the causes, incidence, age, occupation, and sex predilection for HOV. **Materials and Methods:** This prospective study was carried out on 200 patients referred to the Eyes, Nose, and Throat (ENT) Department of Hilla Teaching General Hospital, Babylon, Iraq, from September 2017 to September 2019 complaining of HOV for more than 10 days. The ENT examination was conducted using a fiberoptic flexible laryngoscope. Radiological examination by plain X-ray of the neck and chest, computed tomography scans of the head, neck, and chest, and a direct laryngoscopy exam. Under general anesthesia, and biopsy is taken from suspected pathology (if needed). **Results:** Out of 200 patients, the age group between 31 and 40 years was most commonly seen. Laborers occupation 30% farmers 35% were the major groups affected. Smoking habits were found in 40% of patients with HOV. The most common causes of HOV were acute and chronic laryngitis, including acute viral laryngitis, acute voice abuse, laryngeal trauma after thyroid surgery, vocal cord (VC) nodules, laryngeal polyps, and laryngeal edema. The second most frequent causes are neoplastic growths in the larynx (mostly supraglottic) and hypopharynx. The least frequent causes of HOV are seen due to congenital pathologies such as laryngomalacia and congenital VC palsy. **Conclusion:** Proper and detailed history, good ENT examination, and the investigation of patients with HOV are important factors in the early detection and treatment of causative pathology.

Keywords: Hoarseness, larynx, vocal cords

INTRODUCTION

Voice production originates from the larynx, especially the vocal cords (VCs), but the resonance and quality of the voice depend on various factors and components in the aerodigestive system of the person. Therefore, any pathological changes in these areas result in alterations in the quality of voice, which means that hoarseness of voice (HOV) is a symptom and not a disease.

Changes in the qualities of voice, such as rough, grating, harsh voice, or a lower pitch.^[1-4]

HOV can be acute, caused by viral laryngitis, voice abuse, smoking, or thyroid surgery.^[5-7]

Chronic HOV develops slowly and progressively, as in the case of VC nodules and VC polyps, laryngeal papillomatosis, smoking, tumors of the larynx (VCs), hypopharyngeal tumors, thyroid tumors, gastropharyngolaryngeal reflux, postnasal drip, chronic allergic laryngopharyngeal diseases, chronic granulomatosis disease, tuberculosis (TB), as well as systemic diseases like diabetes mellitus.^[8-10] Therefore,

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HOV is a symptom of many serious diseases that should not be ignored.^[11,12]

MATERIALS AND METHODS

This study aimed to investigate the various causes of HOV, the age and occupation distribution of HOV, and the methods of early detection of the causes of HOV. As part of continuous teaching programs for the health education of patients and doctors for the early diagnosis and treatment of patients with HOV.

The study is a prospective study carried out on 200 patients attending the ENT Department in Hilla Teaching General Hospital, Babylon, Iraq, from September 2017 to September 2019, as patients with HOV for more than 10 days were selected, starting with a history of cold, cough, throat pain, throat dryness, dyspnea, stridor, dysphagia, patient occupation, onset of the condition, mode of HOV whether acute, recurrent, or progressive, smoking, and reflux. History of chronic allergic sinusitis; history of neck trauma or neck surgery (thyroid surgery); history of TB, syphilis, or leprosy; family history of HOV; and history of neck radiation for the treatment of neck neoplasm.

Examination starting from a general look of the patient correlated with the severity of HOV and its duration, examination of neck, chest, Eyes, Nose, and Throat (ENT) examination. By direct examination of the nose, ear, and throat via indirect laryngoscopy and fiberoptic flexible endoscopy of the larynx.

Radiological examination of the neck by plain X-ray and computed tomography scan sometimes needs direct laryngoscopy (under general anesthesia) and biopsy of suspected pathology (pathology of larynx and pharynx).

RESULTS

In the present study, of 200 patients, between age 2 and 82 years old, the most common age group affected is 31–40 years (37.5%) [Table 1].

The sex prevalence (male = 175 and female = 25) is illustrated in Table 2.

The study shows that the incidence more among farmers (35%) compared with laborers (30%) as shown in Figure 1.

Our study shows that voice abuse is found to be the most important predisposing factor for the development of HOV at 45% followed by smoking at 40% [Table 3].

The etiology and causes of HOV are illustrated in Figure 2.

The results in Table 4 show that out of 200 patients with HOV, the common etiological causes are laryngeal edema and laryngeal polyps.

Table 1: Incidence of hoarseness of voice in different age groups

Age group (years)	Number of cases	Percentage (%)
0–10	5	2.5
11–20	5	2.5
21–30	10	5
31–40	75	37.5
41–50	40	20
51–60	35	17.5
61–70	20	10
71–80	10	5

Table 2: Sex prevalence with a male-to-female ratio of 7:1

Sex	N	%
Male	175	87.5
Female	25	12.5
Total	200	100

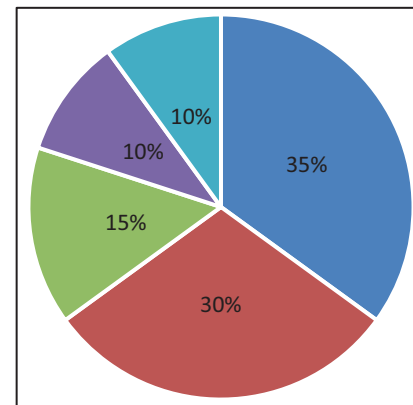


Figure 1: Occupation-wise incidence

Table 3: Predisposing factors of hoarseness of voice

Factor	Number of cases	%
Smoking	80	40
Vocal abuse	90	45
Smoking of alcohol	20	10
Traumatic of surgical	10	5

DISCUSSION

HOV is a common symptom presentation in the Department of ENT. HOV for more than 10 days must be regarded as one of the grave impacts on the individual's life. In addition, might have serious pathology behind it, so referred to the ENT department.

Early detection and diagnosis by taking a detailed history and examination, starting with indirect laryngoscopy and fibro optic flexible laryngoscopy, followed by radiology, for example, by the plain X-ray and CT scan

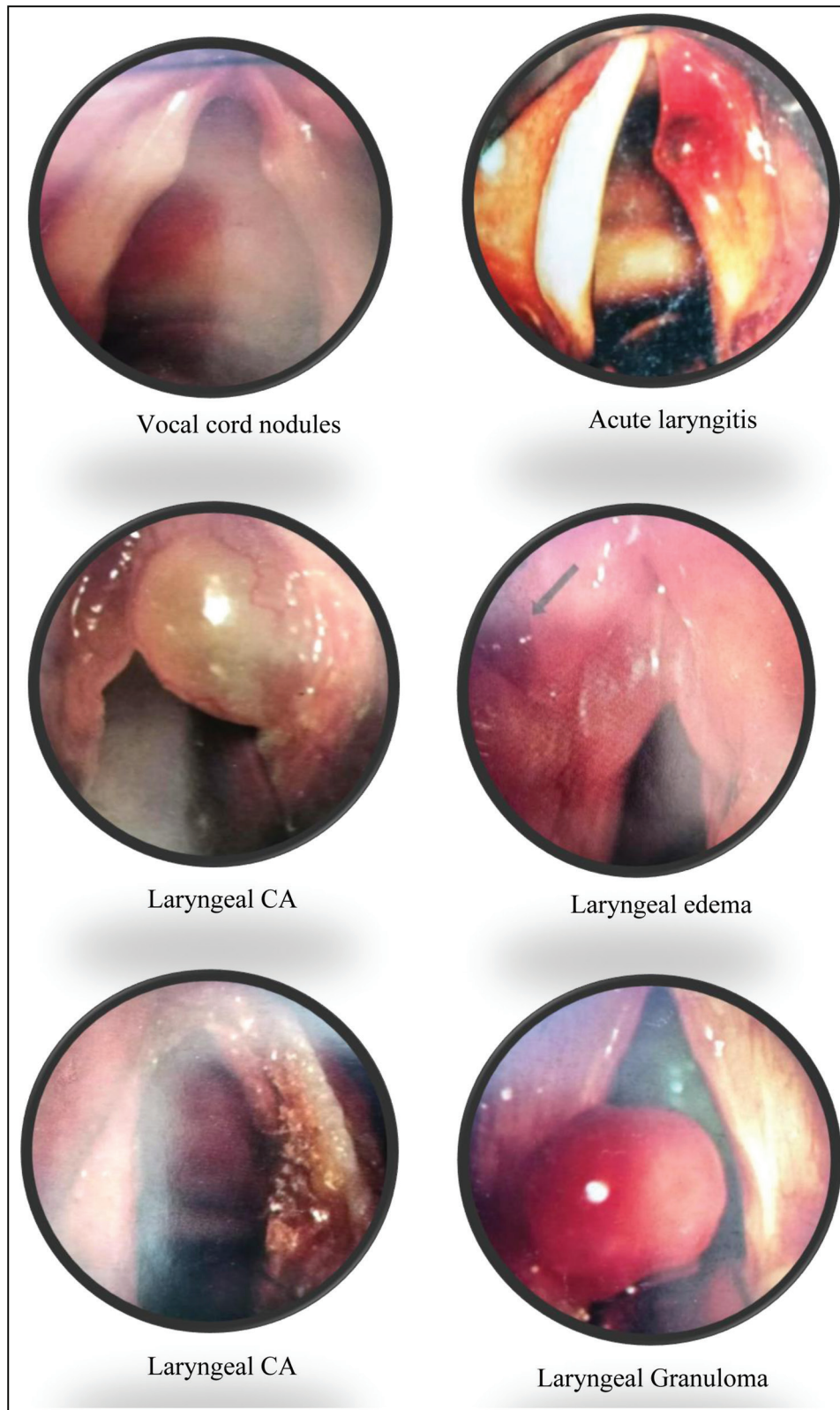


Figure 2: Etiology causes of hoarseness of voice

of the paranasal sinuses and neck. Sometimes, a direct laryngoscopic examination under general anesthesia and a biopsy of the suspected pathology may be needed

to start the treatment of the underlying cause as early as possible, which is mandatory for saving the patient's life.^[9]

Table 4: The common etiological causes among patients with hoarseness of voice

Etiology	No. of cases	%
Allergic laryngeal (edema) and vocal cord polyp	70	35
Pharyngolaryngeal reflux	20	10
Vocal cord nodules	30	15
Vocal cord paralysis	20	10
Laryngeal neoplasm	40	20
Hypopharyngeal neoplasm	10	5
Congenital laryngomalacia, vocal cord palsy	5	2.5
Laryngeal papilloma	5	2.5
Total	200	100

A study in India investigated vocal abuse and vocal hygiene practices among different levels of professional voice users. The results revealed that 86% of politicians and 74% of vendors had voice issues. When compared with teachers and singers, politicians and vendors had the highest point prevalence of voice problems. Voice problems were reported by 59% of the singers and 49% of the teachers.^[13]

The most common causes of hoarseness in this study were laryngeal edema and laryngeal polyps. This result was compatible with a study conducted in Iran,^[14] which found that palsy (6.27%), abductor palsy (3.13%), sulcus (3.13%), and papilloma were the most common causes of hoarseness (1.97%).

Singh *et al.*^[15] investigated the etiological spectrum of HOV in Western Regional Hospital in Nepal, and they concluded that as the causes of HOV range from simple benign diseases to malignant diseases, it is recommended to evaluate every case of HOV of more than 2 weeks with history, videolaryngoscopic examination, and investigations.

CONCLUSION

Proper and detailed history, good ENT examination, and the investigation of patients with HOV are important factors in the early detection and treatment of causative pathology.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Soni S, Chouksey S. A study of clinicopathological profile of patients of hoarseness of voice presenting to tertiary care hospital. *Indian J Otolaryngol Head Neck Surg* 2017;69:244-7.
2. Loyn SB. Doctor my voice seems husky. *Aust Fam Phys* 1994;23:2111-9.
3. Davidson EM. *Clinical Manual of Otolaryngology*. 2 ed. New York: McGraw-Hill; 1992.
4. Bhuyan A, Hazarika P, Deka R. Clinicopathological features of pancytopenia in adults and the role of bone marrow study in etiological categorization: A one-year cross-sectional study. *Med J Babylon* 2022;19:415-21.
5. Dettelbach M, Eibling DE, Johnson JT. Hoarseness from viral laryngitis to glottic cancer. *Postgrad Med* 1994;95:143-62.
6. Chagnon FP, Moulder DS. Laryngotracheal trauma. *Chestsurg Din North Am* 1996;6:73-8.
7. Safi MA, Alhelfy SH. Intracapsular total thyroidectomy experience and outcome for benign thyroid diseases. *Med J Babylon* 2022;19:176-9.
8. Smit CE, Van Leeuwen JA, Mathus-Vliegen LM, Semen A, Devriese PP, Tan J, *et al.* Gastroesophageal reflux in globus and hoarseness. *Arch Otolaryngol Head Neck Surg* 2000;126: 827-830.
9. Woodson GE, Blitzer A, Alexander RE, Grant NN. Neurologic evaluation of the larynx and pharynx. In: Pasha R, editor. *Otolaryngology Head and Neck Surgery*. 2a ed. San Diego, CA: Singular Publishing Group; 1995. p. 61-71.
10. Ramazan HH, Tarazi ARE, Baroudy FM. Laryngeal tuberculosis: Presentation of 16 cases and review of the literature. *J Otolaryngol* 1993;22:39-41.
11. Garrett CG, Ossoff RH. Hoarseness. *Med Clin North Am* 1999;83:115-23.
12. Kambic V, Radsel Z, Zargi M, Acko M. Vocal cord polyps: Incidence, histology and pathogenesis. *J Laryngol Otol* 1981;95:609-18.
13. Boominathan P, Rajendran A, Nagarajan R, Jayshree S, Muthukumaran G. Vocal abuse and vocal hygiene practices among different level professional voice users in India: A survey. *Asia Pac J Speech Lang Hear* 2008;11:47-53.
14. Shamsheer SK, Ramesh Babu G, Poojitha D. Clinico-etiological study of hoarseness of voice of the patients attending to Otolaryngology Department of Teaching Hospital. *J Res Appl Basic Med Sci* 2022;8:204-10.
15. Singh D, Bhandari AM, Shahi S, Shrestha NK. Etiological spectrum of hoarseness of voice in Western Regional Hospital, Pokhara, Nepal. *Med J Pokhara Acad Health Sci* 2020;3:249-53.