Clinical Profile Of Various Vocal Cord Lesions In Patients Visiting ENT Department Of Tertiary Care Hospital, Bhavnagar

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Abstract: Background: Speech is one of the unique qualities that sets man apart from all other living organisms. It is the best way of communication between human beings and an important medium for expressing thoughts and ideas and for very existence in a society. Voice disorders not only isolate a person from the society but could also have a deep impact on the emotional and occupational aspects of life. As specialists in Ear Nose and Throat surgery, we are in the best position to help these patients with voice disorders. The newer technologies like Micro laryngeal surgery, Stroboscopy, Voice analysis, Phono surgery are helping us in precise diagnosis, better understanding and objective documentation of various vocal cord pathologies with their demonstration for better educational purpose. Material And Methods: We observed the clinical profile of 87 patients, who came with c/o change of voice, associated with/without throat pain, foreign body sensation in throat, difficulty in breathing, difficulty in swallowing, heartburn, cough, haemoptysis. Result: Majority of subjects was from the age group of 20 - 60 years and male are predominantly affected. Conclusion: Occupation like teacher/singer and Smoking were the major risk factor. [Jha S Natl J Integr Res Med, 2023; 14(3): 14-18, Published on Dated: 18/05/2023]

Key Words: Vocal Cord Disorders, Stroboscopy, Telescopy, Phono Surgery, Vocal Cord Nodule

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Introduction: Speech is one of the unique qualities that sets man apart from all other living organisms. It is the best way of communication between human beings and a very important medium for expressing thoughts and ideas and for his very existence in a society. Human voice is extraordinarily important not only for speech but also for communication in nonverbal messages like expressing one's identified, authority, intimacy, and other such emotions gifted to mankind.

In a child too it is voice which acts as important way of communication to attract attention of his mother. Voice disorders not only isolate a person from the society but could also have a deep impact on the emotional and occupational aspects of life.

Patients who have vocal abnormalities live desperately finding no solution for their agony particularly in professional voice users, a voice disorder is likely to threaten their livelihood. As specialists in Ear Nose and Throat surgery, we are in the best position to help these patients with voice disorders. With the development of Microscope especially with the 400mm focal length lens, it has become possible to understand detailed anatomy of the larynx and to perform microsurgery on the larynx with great precision.

With use of stroboscope and computerized voice analysis it has become easy to understand closely the act of phonation and thus work upon its shortcomings, be it through surgery or through speech therapy. The newer technology is helping us in precise diagnosis, better understanding, and objective documentation of various vocal cord pathologies with their demonstration for better educational purpose.

Phono surgery stands today where rhinoplasty stood about a hundred years ago and still has a long way to go but it's a double-edged sword when advancement in speech therapy comes into picture, so careful selection of patients and making a very informed decision whether to go ahead with surgery or treating the patient conservatively is of utmost importance in today's practice. Thus, in a nutshell this study is directed towards study of lesions of vocal cords, effectiveness of different investigation methods and treatment options in their management thereafter.

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Objectives: To estimate distribution of various vocal cord lesion and age and gender wise distribution.

To study the common etiological and predisposing factors affecting various vocal cord lesion and various investigative and treatment modalities for vocal cord lesions.

Material & Methods: Department of Otorhinolaryngology and Head and Neck Surgery of Govt. Medical College & Tertiary care Hospital, Bhavnagar.

87 patients coming to ENT OPD with c/o change of voice, associated with/without throat pain, foreign body sensation, in throat, difficulty in breathing, difficulty in swallowing heartburn, cough, Haemoptysis, studied in the period from March 2021 to February 2022.

Detailed history, clinical examination and investigations were done on each patient and findings were recorded.

The patients in this study group were treated surgically or conservative depending on various factors and were forwarded up regularly.

The selection criteria for the study group have been done on the following basis:

Inclusion Criteria: All the Patients presenting with complaints of hoarseness of voice, discomfort in speaking or throat pain were subjected to detailed history, general examination and ENT examination.

Patients with proven malignancy of the vocal tract. Patients with any lesion in vocal cord and/or vocal tract.

Exclusion Criteria: patients with neurological dysphonia and dysphasia. Patients with acute laryngitis.

All the patients in this study group underwent the detailed laryngeal assessment preoperatively and post operatively for first and third month and also prior and post to the conservative speech and medical therapy.

Laryngeal assessment was done with indirect laryngoscopy, Hopkins telescopy, flexible Nasopharyngolaryngoscopy and diagnostic and therapeutic Microlaryngoscopy wherever needed. Pre-treatment voice samples were also collected for subjective post-treatment comparison and documentation.

Results: The present study is a prospective analysis of 87 cases of change in voice studied at Department of E.N.T., Govt. Medical College & Tertiary care Hospital, Bhavnagar during the period from March 2021 to March 2022.

Cases with history of change of voice, duration ranging from 1 week to 3 years and making encountered cases of vocal nodules, vocal polyps, vocal cord cysts, squamous cell carcinoma of vocal cord were studied.

Vocal cord Cyst patients improved with surgery irrespective of post operative speech therapy taken or not.

Smoking could be suggested as a predominant causative factor in development of polyps (more than 50% in both studies) followed by vocal abuse (33.33%).

Smoking was seen as a consistent etiological factor with Reinke's edema and also in vocal cord polyps, Leukoplakia and SCC of Vocal cord.

More association of housewives with voice disorders can be related to their vocal abuse in excessive voice use with taking care of children at home.

Diagnostic efficiency of Telescopy (by Hopkins's 70° and 90° scopes) was found to be better (94%) than that of Indirect Laryngoscopy (59%).

All patients of vocal nodules were subjected to conservative treatment, in which 30 patients were improved with conservative treatment only, rest of 13 patients were subjected to surgery after non-improvement with conservative treatment, in which 4 patients improved by surgery. Recurrent cases (1), which did not improve even after conservative and surgery.

Conservative treatment consisted of speech therapy and symptomatic treatment.

The overall success rate in those subjected to surgical modality was found to be 83.33% whereas those subjected to conservative modality was 71%.

Figure 1: Gender Wise Distribution

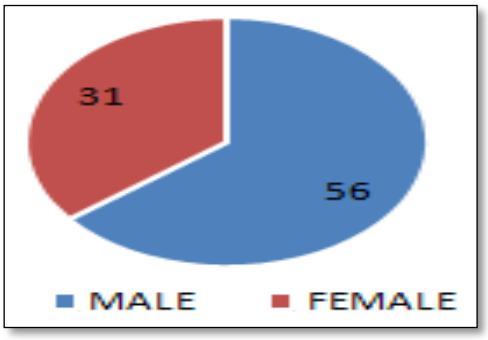

Figure 2: Age Wise Distribution

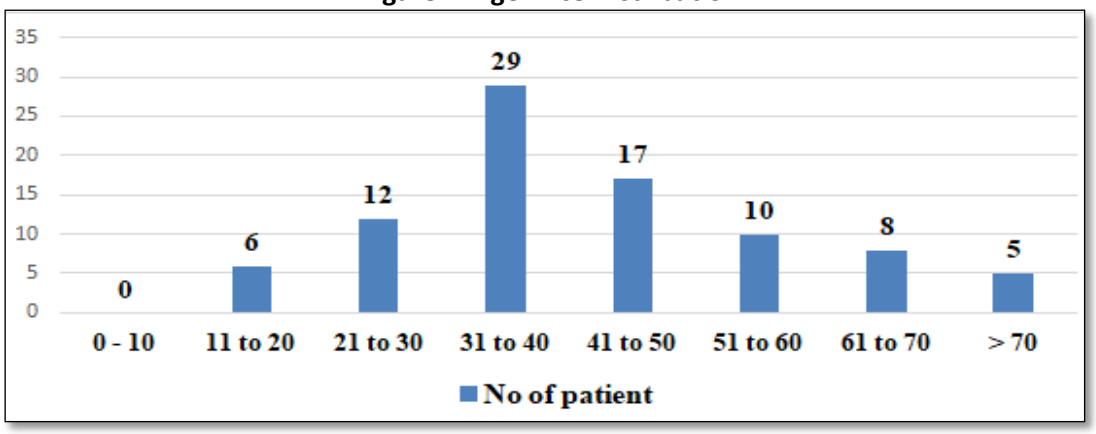

Figure 3: Pathological Lession Wise Distribution

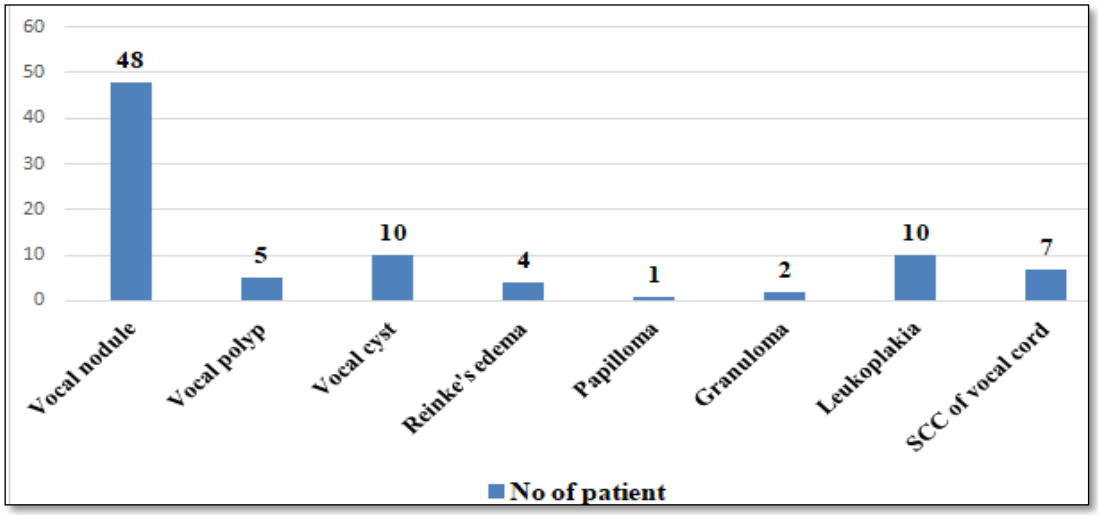

Table 1: Pathological Lession Wise Distribution In Both Gender

Sr. No.	Pathological Lesion	Male	Female	Total
1	Vocal Nodule	21	27	48
2	Vocal Polyp	3	2	5
3	Vocal Cyst	9	1	10
4	Reinke's Edema	4	0	4
5	Papilloma	1	0	1
6	Sulcus	0	0	0
7	Granuloma	2	0	2
8	Varices And Webs	0	0	0
9	Leukoplakia	9	1	10
10	SCC Of Vocal Cord	7	0	7

Table 2: Diagnostic Efficiency Of Indirect Laryngoscopy And Telescopy

Sr. No.	Pathological Lesion	Indirect Laryngoscopy	Telescopy	Total
1	Vocal Nodule	30	44	48
2	Vocal Polyp	4	5	5
3	Vocal Cyst	8	10	10
4	Reinke's Edema	2	3	4
5	Papilloma	0	1	1
6	Granuloma	0	2	2
7	Leukoplakia	2	10	10
8	SCC Of Vocal Cord	5	7	7

Table 3: Various Modalities Of Treatment

Sr. No.	Pathological Lesion	Modalities Of Treatment	Improved	Not Improved	Recurrence	Success Rate (%)
1	Nodule (48)	Surgical (5)	4	1	-	80
		Conservative (43)	30	13	-	69.77
2	Polyp (5)	Surgical (5)	4	0	-	80
		Conservative (-)	-	-	-	-
3	Cysts (10)	Surgical (10)	8	2	-	80
		Conservative (-)	-	-	-	-
4	Reinke's (4)	Surgical (-)	-	-	-	-
		Conservative (4)	4	-	0	100
5	Granuloma (2)	Surgical (2)	2	-	0	100
		Conservative (-)	-	-	-	-
6	Papilloma (1)	Surgical (1)	1	-	1	100
		Conservative (-)	-	-	-	-
7	SCC (7)	Surgical (1)	-	1	1	-
		Conservative (2)	1	1	1	50

Discussion: Vocal cord nodules, cysts and polyps, which are called benign vocal cord lesions, usually occur as a result of one or more repeated phono trauma[1]. In recent years, psychogenic factors and stress have been implicated in the development of benign vocal cord lesions like many other diseases. It has been reported in some studies that stress affects sound quality[3,4] and causes acoustic changes.

The success of those subjected to Conservative modalities was 71% (i.e. 35 out of the 49 patients subjected to voice therapy improved on 3 month follow up)[5]. Smith and Seidel6 reported that stress might cause voice problems (voice unsteady, strained, tense, loud, and quiet) that would prevent communication in patients.

Moreover, the high lie score of the patient group may indicate that they do not feel socially sufficient and need to show themselves better. In a similar study, Barakah et al.[7] found that psychogenic factors were associated with benign vocal cord lesions, particularly in the formation of nodules, polyps, and cysts.

Although the personality characteristics of patients with vocal cord nodules are observed in daily practice, not enough studies have been conducted. The effects of psychological characteristics on otolaryngology are the areas that have been studied more recently. In a limited number of previous studies, it was shown that personality characteristics were related to vocal cord nodule formation[2].

In our study, we also found that E and N were more prominent in patients with vocal cord nodules. According to this study the success in those subjected to surgical modality was 83.33% (i.e. 20 out of the 24 patients subjected to surgery improved on 3 month follow up). The success of those subjected to Conservative modalities was 71% (i.e. 35 out of the 49 patients subjected to voice therapy improved on 3 month follow up)[5],. Kleinssaser[8] (1991): A retrospective study of 104 patients of vocal fold lesions with microsurgery, 83 patients showed a positive result. Kaufman[9] (1991): A retrospective study of 86 patients subjected to voice therapy, 48 patients of which showed positive result.

Conclusion: Most subjects were from age group of 30 to 50 years. Male were predominantly affected for many reasons like smoking, occupational etc. Vocal nodule was seen in majority followed by other benign lesions.

Although it is common in daily practice, the personality characteristics of patients with vocal cord nodules are easily missed. However, determining this condition and therapy in this area may positively affect the treatment of the disease and may help to establish appropriate behavioural patterns to prevent recurrence.

Occupation like teacher/singer and Smoking were the major risk factor. Diagnostic efficiency of telescopy was found better than Indirect Laryngoscopy.

More association of housewives with voice disorders can be related to their vocal abuse in excessive voice use with taking care of children at home. The overall success rate in those subjected to surgical modality rather than to conservative modality.

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