Study of Benign Glottic Lesions Undergoing Microlaryngeal Surgery

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A Study of 67 patients with the complaint of hoarseness of voice was undertaken. Patients with apparently benign laryngeal lesions were selected and subjected to microlaryngeal examination. The benign lesions were categorised and effect of smoking, pollution, occupation and vocal abuse noted. The beneficial effect of speech therapy was also evaluated.

INTRODUCTION

Benign glottic lesions are not a rare entity. It may be large enough to obstruct the airway and threaten the life of an individual or may produce hoarseness of voice, jeopardising the livelihood of some. It has been noted the vocal cords are especially prone to abuse due to atmospheric pollution, smoking, alcohol consumption, dust, fumes and misuse of voice. Over and above all these are the effect of recurrent upper and lower respiratory tract infection. The professional voice users, housewives and children form a susceptible group to the development of benign glottic lesions.

AIMS AND OBJECTIVES OF THIS STUDY

1. Categorization of benign lesions of the larynx.
2. Correlation of clinical, microlaryngoscopic and histopathological features.
3. Role of microlaryngeal surgery in benign laryngeal lesion.
3. Evaluation of the age, incidence, sex ratio and occupational factors in benign lesions of larynx.

MATERIALS AND METHODS

In the present study, 67 patients attending the ENT Outpatient Department of Dayanand Medical College & Hospital, Ludhiana presenting with chief complaint of hoarseness of voice were taken up. Those found to have apparently benign laryngeal lesions were selected for the study. Any patient showing evidence of malignancy was not included.

OBSERVATIONS

In the present study 73.14% patients presented between the age group of 20-25 years.

Majority of the patients i.e. 68.6% presented within 1 yr of the symptoms of hoarseness and 14.9% between 1-2 yrs of onset of hoarseness.

The highest incidence was seen in housewives i.e. 25.3% followed by 16.4% shopkeepers, 14.9% busin essmen, 12% students and 10.4% teachers.

Among various types of benign lesions vocal nodules were found in 33.33% cases, vocal cysts in 17.3%, vocal polyp in 16% and Chr. hypertrophic laryngitis in 13.3% etc.

An attempt was made to further categories vocal nodules into three types histologically. These are early, fibroid and hyaline and the majority of the vocal nodules were of hyaline variety.

Chronic smokers reported with following lesions: vocal polyps in 29.4%, chr. hypertrophic laryngitis in 23.5%, leukoplakia in 17.6%, tubercular laryngitis in 11.7%, others were vocal nodules and vocal cyst.

Out of various benign lesions six cases diagnosed to have benign tumours histopathologically. Table

VIII shows that there were three types of tumours, amyloid in 3 cases, haemangioma in 2 cases and squamous papilloma in 1 case. There were three cases of tuberculous laryngitis out of which one was primary.

DISCUSSION

Males predominated in every category of benign laryngeal lesions except in cases of vocal nodules. This is in accordance with a study conducted in Chicago in 1197 patients by Paul H. Holinger and K. C. Johnston (1951) in which 70% of cases were males and 30% females. On the other hand females far exceeded the males in cases of vocal nodules and hematomas.

In another study conducted on 15 patients in AIIMS, New Delhi in 1965., by A. Sinha, S. K. Kacker and K. N. Pramanik, 73% cases were males and 27% were females. Similarly in a series of 900 cases of vocal cord polyps studied by Kleinsasser, 76% patients were males and 24% females.

In our study most of the patients (73.14%) were between 20-50 years. It is known that individuals in younger age group are more ambitious, active and use their vocal skills maximally. A very interesting observation was that housewives formed 25% of the study group, the system of joint families and the large number of children in each family. It probably accounts for the common occurrence of glottic lesions like nodules and polyps in young women. Majority of the patients in this series i.e. about 75% belonged to occupations well known for excessive vocal use, such as shopkeepers, businessmen, teachers, hawkers, salesmen and medical personnel etc.

TABLE I

Age Incidence			
S. No.	Age Group	No.	%age
1	< 20 yrs	9	13.43
2	20-50 yrs	49	73.14
3	> 50 yrs	9	13.43

TABLE II

Duration of Hoarseness			
S. No.	Duration of hoarseness	No. of cases	%age
1	0-1 yr	46	68.65
2	1-2 yrs	10	14.95
3	2-3 yrs	4	5.95
4	> 3 yrs	7	10.45

TABLE III

Occupational Variation			
S. No.	Occupation	No. of cases	%age
1	Housewife	17	25.37
2	Shopkeeper	11	16.42
3	Businessman	10	14.92
4	Student	8	12.00
5	Teacher	7	10.45
6	Hawker	4	5.97
7	Farmer	4	5.97
8	Doctor	2	3.00
9	Nurse	2	3.00
10	Salesman	2	3.00

TABLE IV

Types of Lesions			
S. No.	Type of lesion	No. of cases	%age
1	Vocal nodule	25	33.33
2	Vocal cyst	13	17.33
3	Vocal polyp	12	16.00
4	Chr. hypertrophic laryngitis	10	13.33
5	Leukoplakia	5	6.66
6	Reinke's oedema	4	5.33
7	Haematoma	3	4.00
8	Papilloma	3	4.00
9	Pachyderma laryngis	1	1.33
10	Laryngeal web	1	1.33

TABLE V

Subtypes of vocal nodules				
Type of nodules	Early	Fibroid	Hyaline	Total
No. of cases	10	6	13	29

TABLE VI

Various lesions in chronic smokers			
S. No.	Lesion in smokers	No. of cases	%age
1	Vocal polyp	5	29.40
2	Chr. hypertrophic laryngitis	4	23.53
3	Leukoplakia	3	17.65
4	Tubercular laryngitis	2	11.76
5	Vocal nodule	2	11.76
6	Vocal cyst	1	5.90

TABLE VII

Types of Tumours			
S. No.	Type of tumour	No. of cases	%age
1	Amyloid	3	56
2	Haemangioma	2	33.33
3	Squamous papilloma	1	16.67

Table VIII

T. B. Laryngitis	Male	Female	Smoker
Primary	Nil	1	Nil
Secondary	2	Nil	2

TABLE IX

Cases subjected to speech therapy		
S. No.	Type of lesion	No. of cases
1	Vocal nodule	10
2	Chronic hypertrophic laryngitis	7
3	Vocal polyp	2
4	Squamous papilloma	1
5	Haematoma	1
6	Haemangioma	1
Total		22 (32.84%)

These findings are in conformity with those of M. S. Strong (1971) who stated that nodules are commonly seen in young women and children and infrequently in adult males and adolescents. The majority of the patients were diagnosed to

have vocal nodules (33.33%) vocal cysts (17.33%) and polyps (16%) on clinical examination. These lesions mostly involved the medial margin of the vocal cords thus causing hoarseness due to changes in its vibratory pattern.

This in accordance with the study conducted by M. Stuart Strong (1971) who found vocal nodules and polyps to be the commonest lesions. In our study the vocal nodules were categorised into three sub types depending on the degree of fibrosis and hyalinization on histopathology. These were early, fibroid and hyaline, whereas Epstein et al. (1957) categorised nodules as fibrous, vascular and oedematous and Ash and Schwartz (1943) staged the evolution of vocal nodules into fibroid, polypoid, varix and hyaline.

It was not surprising to observe that there were slight variations in the clinical and histological diagnosis. Most of the cases of vocal cysts and polyps diagnosed clinically were diagnosed as vocal nodules by histology.

Certain lesions like tuberculosis and amyloidosis could only be diagnosed on histology.

Speech therapy forms an essential part of treatment for benign laryngeal lesions as recurrence can be avoided due to care of the primary lesion by avoidance of forced or stressful phonation. It is imperative to state that preoperative speech therapy would prove highly beneficial in improving patients compliance, later if required post-operative speech therapy should also be instituted.

CONCLUSIONS

- 73.14% patients presented between age group of 20-50 yrs.
- Incidence : Housewives–25.77%; Shopkeepers–14.92%; Businessmen – 12%; Students–12% and Teachers –10.45%.
- Common Types–Vocal nodules–33.33%; Vocal Cyst–17.33%; Vocal Polyps–16%; Chronic hypertrophic laryngitis–13.33%.
- Lesions most common in smokers–vocal

- polyps (29.4%) and chronic hypertrophic laryngitis (23.5%).
- Microlaryngoscopy has a definite edge over other diagnostic modalities.
- Recurrence seen in 7.49% cases and were re-operated.
- 32.84% were subjected to speech therapy.
- True benign tumours amyloid (3), Haemangioma (2) and squamous papilloma (1).
- Tubercular laryngitis seen in 3 patients of which 1 was primary and 2 secondary to pulmonary tuberculosis.

References

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NOTICE NES Meeting

The next NES meeting will be held at Delhi on 6th & 7th January 1998.

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