



IMPACT OF MICRO LARYNGEAL SURGERY FOR VOCAL FOLD NODULE ON QUALITY OF VOICE

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ABSTRACT

Background: In this age of communication, the care of human voice and the vocal organ assumed greater and greater importance. The maintenance of good vocal health and treatment of the diseased larynx are essential for all members of society, especially individuals who are professional voice users

Aims: To analyze the improvement in quality of voice in terms of VHI-10 (voice handicap index-10).

Objective: Micro laryngeal surgery for vocal fold nodule will improve the quality of voice.

Methodology: This is a prospective review of 20 patients who underwent micro laryngeal surgery in department of ENT, sola civil- Ahmadabad from July 2017 to December 2018 where included in study. All patients were subjected to VHI-10(Voice handicap index). Preoperative and post operative VHI-10(Voice handicap index) score were compared.

Results: There is significant improvement seen in VHI-10 after micro laryngeal surgery in patients of vocal fold nodule.

Conclusion: The Vocal fold nodule have a high impact on quality of voice/life which can be measured by using VHI-10. Micro laryngeal surgery for vocal cord nodule is very effective in regaining the quality of voice.

KEYWORDS

micro laryngeal surgery, voice handicap index (VHI-10), quality of voice

INTRODUCTION

In this age of communication, the care of human voice and the vocal organ assumed greater and greater importance. The maintenance of good vocal health and treatment of the diseased larynx are essential for all members of society, especially individuals who are professional voice users like singers, actors, salesman, etc Vocal cord nodules are small benign swellings along the margin of the true vocal cord It is also known as "singers or screamers nodules". The nodules are typically found at junction of anterior one third and posterior two thirds of vocal cord which represents the point of maximum vibration of vocal cord, since only membranous anterior two third, participates in vibration whereas the cartilaginous posterior one third acts to steady the vocal cord. Patient who has vocal nodule presents with chronic hoarseness, often repeated episodes of more sever voice loss. The voice handicap index-10 is easily self administered and scored, quickly at the time of evaluation while preserving the original VHI's utility and validity.

AIMS AND OBJECTIVES

AIM: To analyze the improvement in quality of voice in terms of VHI-10 (voice handicap index-10).

Objective: Micro laryngeal surgery for vocal fold nodule will improve the quality of voice.

MATERIAL AND METHODS

This is a prospective review of 20 patients who underwent micro laryngeal surgery in department of ENT, sola civil- Ahmadabad from July 2017 to December 2018 where included in study. All patients were subjected to VHI-10(Voice handicap index) Preoperative and post operative VHI-10(Voice handicap index) score were compared. patients' authorization was obtained for operative procedure and use of their data and pictures. A detailed clinical history which special focus on vocal complaints was taken in terms of onset, duration, progress, vocal abuse and vocal fatigue. All patients have undergone voice recording for comparison of quality of voice preoperatively and postoperatively. All routine investigation were performed. General anesthesia is norm for micro laryngeal surgery.

Voice handicap index(VHI-10) : VHI-10 is a Objective method for evaluation of voice and Used to asses the impact of voice complaint in terms of physical complaint and restrictions in participation in daily activities and response to treatment. The VHI-10 consists of 10 entries, and patients have to score each problem with the appropriate option representing the frequency of occurrence for each problem: 0 for "no"; 1 for "rarely"; 2 for "sometimes"; 3 for "regular"; and 4 for "always." The VHI-10 score is the sum of the score of 10 entries, which range

from 0 to 40 points. The higher the VHI-10 score is, the more serious is the subjective assessment of patients on quality of voice. All the patients were assessed with a self-reporting questionnaire, VHI-10, preoperatively and 1 week postoperatively.

INCLUSION-CRITERIA

1. All Patients with a voice complaint presenting to ENT OPD who on laryngoscopy showed vocal cord nodule

EXCLUSION-CRITERIA

1. Patients with other benign lesions of larynx
2. Patients with benign neoplasm of larynx
3. Carcinoma of larynx
4. Acute infection of larynx
5. Patients not willing for participation

RESULTS

There is significant improvement seen in VHI-10 after micro laryngeal surgery in patients of vocal fold nodule. Out of 20 patient 7 (35%) patients from age group of 31-40 and 7 (35%) patients from age group of 41-50(table-3). Out 20 patient 15 patients were male and 5 patients were female. The maximum number of patients were voice professionals, with maximum number being teachers followed by businessmen, advocate, priest, supervisors, house wife. Mean VHI-10 preoperatively and postoperatively were compared. The mean preoperative and postoperative VHI-10 was 30.36±6.42 and 1.11±1.76 respectively (table-2). The reduction in preoperative and postoperative scores gave p-value of <0.05 at confidence interval of 95%.

Table:1.Comparison of mean VHI preoperatively and postoperatively

Comparison of mean VHI preoperatively and postoperatively		
VHI	Preoperative VHI Mean ±SD	Postoperative VHI Mean ± SD
My voice makes it difficult for people to hear me	3.52±0.84	0.11±0.31
I ran out of air when I talk	2.27±1.46	0.19±0.52
People have difficulty understanding me in a noisy room	2.27±1.46	0.19±0.82
The sound of my voice varies throughout the day	2.94±1.47	0.08±0.36
My family has difficulty hearing me when I call them at home	3.02±1.31	0.02±0.16

I use the phone less often than I would like to	2.97±1.27	0.03±0.16
I am tensed when talking to others because of my voice	3.02±1.36	0.13±0.48
I tend to avoid group of people because of my voice	3.00±1.30	0
People seem irritated with my voice	3.00±1.30	1.11±1.76
People ask "whats wrong with your voice?"	3.61±0.83	0.27±0.17
VHI	30.36±6.42	1.11±1.76

DISCUSSION

In our study the majority of the patients were in the age group of 31-40 and 41-50 (7 patient each). In a study by Reddy et al¹ on 50 patients with vocal cord nodule and another study by Mehta et al² on 50 patients. It was shown that the maximum number of patients were in the age group of 31-40 which is followed by 41-50 age group.

Table-2: Comparison of preoperative and post operative VHI-10

Comparison of preoperative and post operative VHI-10			
	Our study n=20	Reddy et al n=50	Mehta et al n=50
Preoperative VHI-10	30.36±6.42	34.23±7.36	36.83±2.36
Postoperative VHI-10	1.11±1.76	7.24±4.67	10.64±7.43

Table-3: Comparison of age of patients with the studies of reddy et al and mehta et al

Comparison of age of patients with the studies of reddy et al and mehta et al			
Age group	Our study n=20	Reddy et al n=50	Mehta et al n=50
31-40	35.0%	50.0%	32.0%
41-50	35.0%	12.0%	26.0%

This is the most active and productive period of life engaged in various social, economics, and professional work. When we compared the outcome of our microlaryngeal surgery for vocal cord nodule on quality of voice using VHI-10 almost all patients regained normal voice. (table-2). The normative value of VHI-10 is 2.83.³ In our study, the main post operative VHI-10 was 1.11±1.7 with p value of <0.005.

CONCLUSIONS

Vocal fold nodule have a high impact on quality of voice/life which can be measured by using VHI-10. Micro laryngeal surgery for vocal cord nodule is very effective in regaining the quality of voice.

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