

Non-Malignant Lesions of Larynx- Our Experinece

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Abstract

Introduction: Benign lesions of the larynx constitute an interesting array of lesions. These lesions are defined as an abnormal mass of tissue in the larynx, the growth of which exceeds and is uncoordinated with that of the normal tissue and persist in the same excessive manner after cessation of stimuli which evoke the change. The aim of this study is to analyze over a period of 1 year, the demographics such as age, sex distribution, occupation, the site of involvement, symptomatology and prognosis of the most frequent benign lesions of larynx.

Materials And Methods: Retrospective study of 70 patients who attended ENT OPD at Rajiv Gandhi Government General Hospital from May 2016 to May 2017 and diagnosed with non malignant lesion of larynx were followed up for a period of 6 months

Results: In this study male preponderance was seen. Of the benign lesions Non neoplastic lesions were more common in the larynx(81%). Vocal polyps were the most common lesion (22.85%). Manual labourers were the most common occupational group to be affected (31.4%). After 6 months of follow up none of the cases in non neoplastic group reported recurrence and 2 cases of papilloma required a second sitting excision.

Conclusion: Laryngeal lesions can create lot of mental and emotional stress in the patient and the family. Early diagnosis of the lesion can lead to effective management

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I. Introduction:

Larynx is an important organ of the body. The primary function of the larynx is to provide protection to the lower airway. It secondarily evolved to serve as a vocal generator of sound. The larynx produces sound which is the major medium of communication. Voice helps in expressing emotions even without the help of language. It expresses the mood and attitude. . The spectrum of voice disorders is very wide and its impact on different individuals also varies. Benign lesions of the larynx constitute an interesting

array of lesions. These lesions are defined as an abnormal mass of tissue in the larynx, the growth of which exceeds and is uncoordinated with that of the normal tissue and persist in the same excessive manner after cessation of stimuli which evoke the change[1]. Benign lesions of the larynx generally produce a common symptomatology known as dysphonia [2].

The laryngologist agrees to the fact that non malignant lesion not only includes true histologically benign tumours, but also lesions which are tumour like in appearance and behavior. Thus non malignant lesions can be classified as—

- 1) Benign neoplastic lesions.
- 2) Benign non neoplastic lesions.

The aim of this study is to analyze over a period of 1 year, the demographics such as age, sex distribution, occupation, the site of involvement, symptomatology and prognosis of the most frequent benign lesions of larynx.

II. Materials And Methodology

This is a retrospective study which was conducted in the upgraded Institute of Otorhinolaryngology of Govt.General Hospital, chennai ,during May 2016 –May 2017. Seventy patients with benign lesion of larynx were analysed. Only cases with persistent hoarseness for more than three weeks were selected .Benign lesions included neoplastic and non neoplastic lesions. All cases underwent a thorough ENT examination. Once

suspected the cases were examined under direct laryngoscope, fibreoptic laryngoscope and if needed microlaryngeal examination was also done. Benign non neoplastic lesions were treated by voice rest, laser, or excision biopsy and the biopsy results were confirmed.

The benign neoplastic lesions underwent direct laryngoscopic examination and routine x-rays. If needed CT scan was done. The deserving cases underwent open surgical procedures and management results were analysed. With all this information analysis is made to obtain the aim of the study. All lesions of larynx that showed features of malignancy were excluded. All critically ill patients were excluded from the study. Besides Indirect laryngoscopic examination in the Out patient department, all the patients were examined with video larnngoscopy after spraying with 4% xylocaine. The entire anatomy of the larynx including the movement of the vocal cords could be studied after asking the patient to phonate. It is an office procedure, causing minimum discomfort to the patient.

The next important and useful investigation is stroboscopy. But it is not available in our institution and hence was not done. It was not considered cost effective to send the patient to another center for this procedure alone.

Computed Tomography was not done routinely for the patient. Only for two patients of schwanoma and hemangiopericytoma where the appearance was deceptive, a Computed Tomography of the neck was done.

Biopsy was done for large number of cases. In some cases it was done preoperatively to confirm the diagnosis as in case of tuberculous laryngitis. In other cases biopsy was done per operatively.

Xray neck soft tissue lateral view is needed for certain cases where any obstruction to the air passage is suspected. Since in our study large number of cases were small nodules or small polyps. Exposure to radiation was avoided, where ever it was felt that no extra information would be available.

Videolaryngoscopy gives clear picture of the pathology. It also allows for documentation of the cases. Hence it was done for all the cases. Biopsy was done only in cases where the diagnosis had to be confirmed. In other cases where the presentation and appearance was classical it was avoided so as to save cost. Magnetic Resonance Imaging and Electroglottogram is not routinely done for the non malignant lesions of the larynx. In our study also, it was not done. All the cases were followed for a period of 6 months.

III. Results:

There were a total of 70 patients of which 39 were male and 31 female. The maximum distribution of cases were in between the 21-30 years age group (34.3%). There were a total of 57 non neoplastic cases(81.43%)of which 34 were males and 23 females. Neoplastic cases accounted for 13 patients(18.57%)of which 5 were males and 8 femlaes.The male female ratio is almost 1.4:1 in non-neoplastic lesions. The male female ratio is 1:1.6 in neoplastic lesions in our study.In our study the commonest occupation was manual labourers(31.4%) followed by clerks(21.4%) and house wives(18%). Traditionally these lesions have been associated with professions like lawyers, Priests and Singers. It is now however proved that these lesions can occur in any individual who are talkative, and have a tendency for voice abuse.

Table 1

Occupation	Female	Male	Total	Percentage
House Wife	13	0	13	18.6%
Students	3	1	4	5.7%
Manual Labourers	0	22	22	31.4%
Teachers	6	5	11	15.7%
Clerk	6	9	15	21.4%
Singer	3	1	4	5.7%
Lawyer	0	1	1	1.42%

The most common lesion observed was vocal polyp (22.85%) of which 75% were males and 25 % were females . Ten of them were pedunculated (62.5%) and six (37.5%) were sessile. Two of them were of angiomatous type. All of the polyps were visualized videoendoscopically and MLE done. No recurrence was observed. The second most common lesion observed was Vocal Nodule (17.14%). The lesion ranged from 1-4mm in size. Eight of them were less than 2mm in size and 4 of them were less than 1mm in size. Nine were bilateral and three were unilateral in size. Under video endoscopic control, all were excised. No recurrence was observed. A total of seven cases of cyst were seen in which six cases of unilateral cysts were observed over the vocal cords. In one case epiglottic cyst was present. All were treated by excision under videolaryngoscopic guidance . No recurrence was noted.

Diagnosis	Female	Male	Total
Vocal Nodule	7	5	12
Vocal Polyp	4	12	16
Vocal Cyst	6	1	7
Recurrent Respiratory Papilloma	4	0	4
Intubation Granuloma	0	1	1
Laryngocoele	0	1	1
Amyloid	0	1	1
Reinke's Oedema	0	1	1
Sulcus Vocalis	0	1	1
Adult Papilloma	4	3	7
Haemangiopericytoma	0	1	1
Tuberculous Laryngitis	0	1	1
Laryngeal stenosis/stricture	4	6	10
Ventricular cyst	1	1	2
Keratoses	0	4	4
Schwanoma	0	1	1
Total	31	39	70

Table 2

Seven cases of Papillomas were observed in this study (11.1%). Four were seen in females and three in male. It is the common true neoplasm observed. In two cases the mass was seen in the supra glottic region while in the other five, the lesions were seen occupying the vocal cords. In all cases under video endoscopic control, MLE was done. Only one case of recurrence was observed after a follow up of 8-6 months. Four cases were seen. All patients were adult females. Repeated micro laryngeal excision has been done. But recurrence were seen in two cases. Tracheostomy was done in two cases. One case was observed. Patient had Endotracheal Intubation. MLE was done under endoscopic control. No recurrence was noted up to three months follow up. There was one case each in Intubation Granuloma, Laryngocoele, Amyloid, Reinke's Oedema, Sulcus Vocalis Haemangiopericytoma, Tuberculous Laryngitis, Schwanoma. There were 10 cases of laryngeal stricture(14.25%), 4 cases of keratosis(5.7%) and 2 cases of ventricular cyst(2.8%). All patients who gave a positive history for smoking and drinking were only males. Total number =21. Total number of patients with positive alcohol intake =9, Smokers =14 (Patients who smoked either Beedi or cigarette). Smoking has been associated with decreased mucociliary clearance making the patients more prone for these lesions. Almost 25% of the patients gave history of laryngopharyngeal reflux. Hoarseness of voice was the most common in symptom which accounted for 65%. 48 patients underwent Microlaryngeal excision(68.5%), 10 patients underwent Stricture release with silastic sheets stents(14.28%), 5 patients underwent Open surgical procedures(7.14%), 6 were treated conservatively(8.5%) and one patient was started in anti TB drugs. All the cases were followed for a period of 6 months. At the end of 6 months much to our satisfaction none of the cases of vocal nodule, vocal polyp, vocal cord cyst and intubation granuloma reported with any recurrence. Two cases of Papilloma had to be taken up for second sitting.

However since Recurrent Respiratory Papillomatosis is known for recurrence both these cases were already prepared for repeated sittings. However Tracheostomy was avoided for both these cases.

IV. Discussion

Benign lesions of larynx constitute an interesting array of lesions, etiological factors for lesions such as vocal nodules, vocal polyps, mucosal hemorrhage, intracordal cyst seems to be vibratory trauma. Secondary influences such as smoking, infection, allergy, acid reflux may also increase the mucosa's vulnerability to the kind of injuries that may occur during mucosal oscillation [3]. Vocal cord nodules appear as symmetric bilateral mass lesions, white to opaque, firm and present at the junction of anterior and middle third of vocal folds. They result in hourglass closure of glottal configuration and will affect vocal fold mucosal wave and vibration. Vocal cord polyps are more commonly unilateral, translucent, red pedunculated arise in the free edge of anterior third of vocal fold [4]. Reinke's edema is also known as polypoidal degeneration, in which a chronic accumulation of gelatinous mucoid material develops in

Reinke's space [5]. Laryngeal granuloma are reactive lesions composed of granulation tissue usually located in the posterior third of vocal folds. Macroscopically they can be polypoidal, nodular, fungating or ulcerated, measuring 2-15mm in diameter and ranging in color

from pale gray to dark red mostly bilateral [6]. Vocal fold cysts are benign pathologic entities that tend to occur at a slightly deeper plane of lamina propria and usually unilateral [7]. A multimodality mode of treatment is necessary to avoid recurrence of these lesions. Primary supportive medical treatment with adequate

hydration to promote lubrication of vocal cords is important. A number of mucolytic agents like ambroxyl, carbocystine and brotuxine are believed to break down thick secretions, thereby supplementing therapy. Associated nasal, sinus and oropharyngeal infections should also be managed with appropriate treatment. Systemic antihistamine and decongestant combinations may be required to treat. Short term corticosteroids have been indicated in a number of cases and they facilitate by reducing the oedema of vocal cords there by reducing hoarseness of voice. Appropriate measures for acid reflex should be. Shaw et al in 1979 in his study of 1505 cases reported 1300 cases to be non neoplastic lesions of the larynx(86%) and 205 cases of neoplastic lesions(14%). The ratio of non -neoplastic to neoplastic lesion remains almost same in our study(81.4% non neoplastic and 18.5% neoplastic) as to the study done by Shaw in 1979.

Kleinsasser in the year 1982 in his study of non malignant lesions of larynx showed a male to female ratio of 3:1 and Mark Bouchayer in his study in 1998 showed a male to female ratio of 1:4 but in our study it is 1.2:1. In 1988 Lancer et al conducted a study on vocal nodules. In his study comprising 44 patients with vocal nodules 30 were females(68%), 3 were males (7%) and 11 were children (25%). In our study 7 were females (58.3%) and 5 were males (41.7%).

Jones SR et al in his study on vocal polyps showed 76 % of patients to be males which is similar as in our study (75%). Robinson in his study of non malignant lesions of larynx reported a 6.08% of laryngeal cysts. In our study it is only 2.85%. Shaw in his study on lesions of larynx reported a 2.12% of vocal cord granuloma but in our study it is only 1.42%.

V. Conclusion

Human voice is an extraordinary attainment, which is capable of conveying not only complex thoughts but also subtle emotions. Laryngeal lesions can create lot of mental and emotional stress in the patient and the family. Early diagnosis of the lesion can lead to effective management. All available methods of study should be utilized to make the diagnosis as early as possible. Micro laryngeal surgery and voice rest offer a cost effective, useful and safe method for management of benign laryngeal lesions.

References

- [1]. Singhal, P., Bhandari, A., Chouhan, M., Sharma, M. P., & Sharma, S. Benign tumors of the larynx: a clinical study of 50 cases. *Indian Journal of Otolaryngology and Head & Neck Surgery*, 2009;61(1), 26-30.
- [2]. Saudi, S. Benign lesions of the Vocal Cords in different ages: prospective Study of 60 Cases. *Journal of Medical Science and Technology*,2013;2(3),130-134.
- [3]. Bastian, R. W. Benign mucosal and saccular disorders: benign laryngeal tumors. *Otolaryngology Head and Neck Surgery*. 2nd ed. St Louis, Mo. Mosby-Year Book Inc, 1993; 1897-1924.
- [4]. Johns MM. Update on the etiology, diagnosis, and treatment of vocal fold nodules, polyps, and cysts. *Curr Opin Otolaryngol Head Neck Surg*. 2003 Dec;11(6): 456-61.
- [5]. Zeitels SM, Hillman RE, Bunting GW, Vaughn T. Reinke's edema: phonatory mechanisms and management strategies. *Ann Otol Rhinol Laryngol*. 1997 Jul;106 (7 Pt 1):533-43.
- [6]. Bostijan Luzar, Nina Gale, Ulrika Klopčič Janez Fishingier. Laerngeal granuloma; Characteristic of covering epithelium. *The journal of laryngology and otology* 2000 April; Vol.114: 264-267.
- [7]. Charles W. Cummings. John M. Febrickson, Lee A. Harker, Charles J. Krause. David E. Schuller. *Otolaryngology. Head and Neck surgery*. 2nd edition Mosby- Year Book.1993; 2020-2051.

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