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Original Research Article

A Comprehensive Study on the Benign Lesions of Vocal Cords at Tertiary Care Hospital - SMC Vijayawada

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Abstract:

Objectives: Clinical study was conducted to analyse the age, sex distribution and symptomatology, and the prognosis of the common types of benign lesions of Vocal cords

Study Design: 1year study from September 2022 to August 2023 in a Tertiary care Hospital - Siddhartha medical college SMC-Vijayawada.

Methods: Total of 50 patients with benign laryngeal lesion were included based on symptomatology such as hoarseness of voice, foreign body sensation, throat pain, neck swelling, cough with or without sputum. Lower and upper limit of the study age was 15-50 years, investigations include all haematological, clinical photographs, radiological investigations and therapeutic procedures are collected. All non-operative and malignant cases are excluded

Results: Male to female ratio was observed to be 1:1.32, most common age group was 30-40years, while vocal nodules are the most common presentation with throat pain being the earliest and hoarseness of voice being the common symptom

Keywords: Benign Lesion, Larynx, Hoarseness Of Voice, Throat Pain, Vocal Cord, Nodule.

Introduction

Benign lesions of larynx are one of the most significant problems attending Outpatient department (OPD) in India [1]. Patients are usually Presenting with hoarseness of voice especially teachers, singers [2]. MLS is the treatment of choice. Larynx is formed by cartilages, ligaments, and membranes. 3 paired and 3 unpaired cartilages - thyroid cartilage, cricoid cartilage, arytenoids, epiglottis, cuneiform and corniculate.

Average length of vocal cords in male is 23mm and females are 16 mm. vocal folds is made up of mucosa and muscles. Mucosa is divided into epithelium which is stratified squamous and the lamina propria which consists of superficial, intermediate and deep layers. Superficial layer of lamina propria is referred to reinkes space, consists of loose fibrous tissue.

Reinkes space is the layer which vibrates most significantly during phonation.it becomes stiff due to some pathology such as tumour, inflammation or scar tissue causing voice problems [3].

Classification [4]:

Non-neoplastic

Vocal cord polyp, retention cysts, tuberculosis granuloma, intubation granuloma, contact ulcers/ granulation, Wegener's granuloma, myoblastoma

Neoplastic

Chondroma, papilloma, adenoma.

Non-neoplastic lesions

- Solid non-neoplastic lesions
- Vocal nodules, Vocal polyps, Reinkes oedema, Contact ulcers, Intubation Granulomas, Leucoplakia, Amyloid tumours
- Cystic non-neoplastic lesions
- Ductal cysts, Saccular cysts, laryngocele

Materials and methods:

This study was conducted in the ENT department of SMC Vijayawada; it consists of 50 patients for a period of one year (September 2022- August 2023)

Inclusion criteria:

- All patients with hoarseness of voice
- Only non-neoplastic lesions of vocal cords
- Age between 15-50 years of age

Exclusion criteria:

- Neoplastic lesions of larynx

All these patients underwent ENT examination, general examinations, routine investigations including video laryngoscopy (both preoperative and post-operative), subjective assessment of voice. Improvement has taken as prognostic criteria

The following investigations: blood investigations, Hb%, TC. DC, CT BT, RBS, serum creatine, urine examination (urine albumin, urine sugar) radiology (x-ray neck -lateral view, chest X-ray to rules out TB laryngitis), ECG.

Treatment:

Microscopic laryngeal surgery (MLS) is the surgical management of vocal cord lesions [5]. Direct method: this can be done under GA. most surgeons prefer to remove benign lesion through direct laryngoscope

Instruments: operating microscope, direct laryngoscope, microsurgical instruments, and video adapter with camera and monitor.

Procedure: patient should be placed in Boyce`s position. Extension at head and flexion of neck, achieved by placing shoulder bag below. Teeth guard is inserted. The surgeon stands at the head end, stretches the jaw, and extends the atlanto-occipital joint. Laryngoscope is inserted. Once the laryngoscope is in-situ it is fixed with laryngostat by means of claw. Binocular operating microscope can be adjusted in the magnification of 10x with focal length of 400D. Cysts are held with grasping forceps and retracted medially upward the surface epithelium is incised and the line of incision is continued anteriorly along the lateral margin of cord. Bleeding is controlled [6].

Post-operative follow up: the patient is advised to attend ENT op regularly for every 15 days for a period of 6 months. On frequent follow up subjective improvement of change of voice and recurrence of disease were observed

Graphs: Total of 50 cases studied out of which 22 are males and 28 are females.

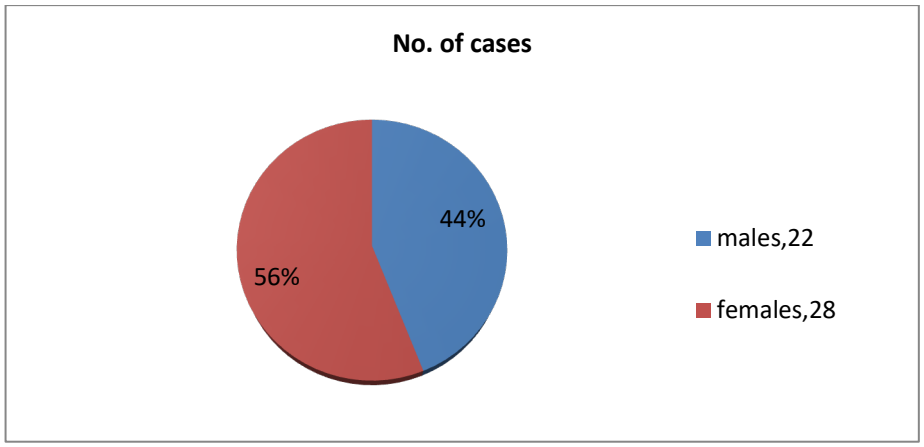

Figure 1: Age Distribution

As per the study male female ratio is 1:1.32. List of MLS surgeries performed during 2022-2023.

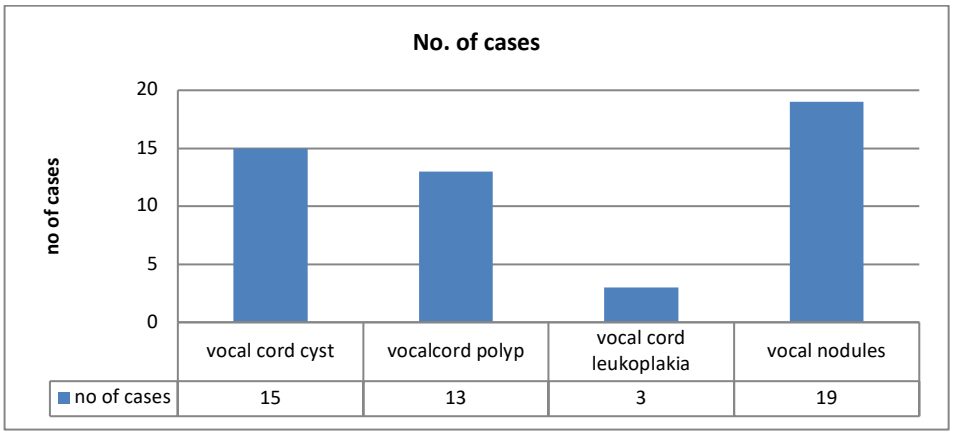

Figure 2: Types of Lesions

Age wise distribution

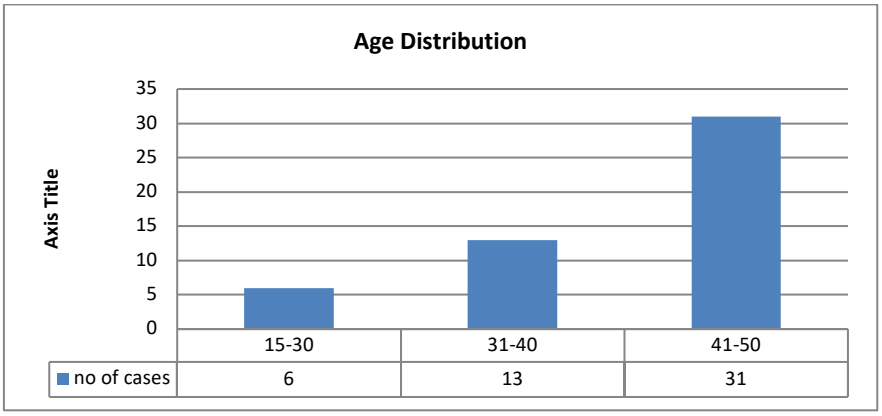

Figure 3: Age wise distribution

Presenting Complaints

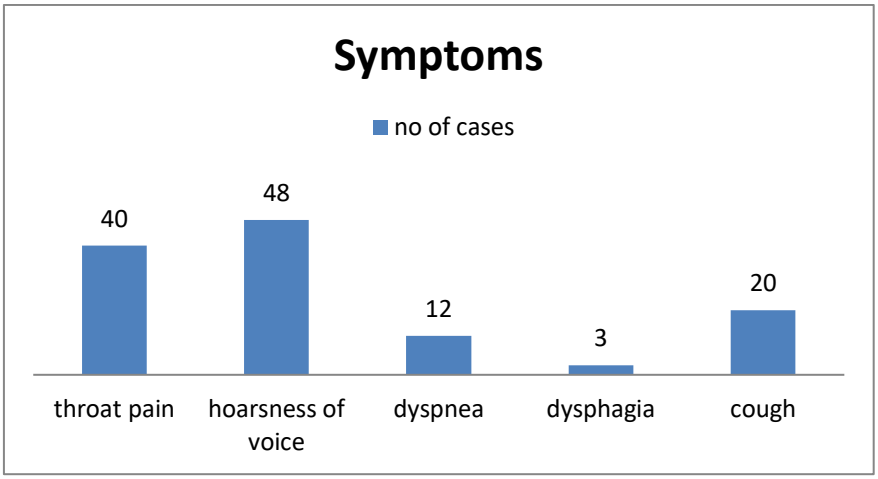

Figure 4: Presenting Symptoms

Discussion

During the period June 2023 –May2023, the study was taken place on non-malignant lesions of larynx, the cases are individually taken into consideration about the age, sex, personal history, environmental influence and the social status of the cases during the tenure about 50 cases were studied & the inference is drawn.

During the study of non-neoplastic lesions, there is high incidence of vocal nodules, cyst, and polyps. Social factors like illiteracy, low social economic status, smoking, and alcohol are dominant. Vocal strain is also inspected in some cases, genetic factors is also noted.

Incidence of total number of op department is around 42,786 out of which only 50 cases of non-neoplastic lesions of larynx are seen. Hence the incidence is of 0.17%. True benign tumors of larynx are twelve cases making 60% and non-neoplastic lesions 8 making about 40%.

Sex incidence: Both sexes are equally affected with slight predominance to females; it is observed that 28 females and 22 males are affected with male female ratio of 1:1.32.

Age incidence: Age varied from 15 to 50 years % rates vary according to type of lesion. youngest patient in our study was 22yrs old while oldest being 50 yrs. maximum members of cases is the age group of 41-50 years.

Symptoms: Hoarseness of voice is 96 %, difficulty in breathing -12% and difficulty in swallowing is 6%, 80 % of patients suffered with pain in throat while speaking or singing

Duration: Duration of symptoms ranged from 2 months – 1year with mean duration of illness is being 6 months

Type of lesions: most of the cases in the study had vocal nodules 38% while 26% of cases had vocal cord polyps, 30% 0f cases had vocal cysts. Leucoplakia is the least with 6% of cases

Site of lesion: The commonest site of origin was from true vocal cords, epiglottis was the next common site

Prognosis: All the cases were symptom free post-operative and during the follow up to 6-12 months.

Conclusion

Among the non-neoplastic lesions of vocal cords like vocal nodules, vocal polyps are the common accounting for about 70 percent of the cases combined. These appear to be arising from edema secondary to vocal strain /abuse and other inflammatory lesions in submucosal layer of vocal cord- reinkes space. Vocal nodules initially need speech therapy and voice rest, about which 50% resolves [7]. The resistant cases need to be surgically treated with Micro Laryngeal Surgery (MLS). Females are more affected than males accounting to 56% of the cases while males carry up to 44%. Patients aging between 41-50 years are more affected 62%, dysphonia is the most common presentation with 96% of cases.

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