Main Article

BENIGN LESIONS OF LARYNX- A CLINICAL STUDY

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ABSTRACT: ***Objective:*** *A clinical study was undertaken to analyze the age, sex distribution and symptomatology, sites of involvement and the prognosis of the common types of benign lesions of larynx.*
Study Design: *A five year retrospective study from 1997 to 2002.*
Setting*: KMC Hospital Attavar- A tertiary referral hospital.*
Patients: *A total of 42 patients with benign laryngeal lesions were included based on symptomatology such as hoarseness of voice, foreign body sensation, throat pain, neck mass and cough and with positive clinical findings on indirect laryngoscopy and neck examination. The patients ranged from 7-80 years. All non-operative cases and malignant cases were excluded. Diagnostic hematological and radiological investigations and therapeutic microlaryngoscopic procedures were employed.*
Results: *A male preponderance with M:F ratio of 3:1 was observed. Majority of the patients were in the 30-40 age group. Vocal polyps were the commonest type of lesion. In our study, hoarseness of voice, cough, foreign body sensation and throat pain proved to be the commonest symptoms.*
Conclusions*: Micro laryngeal surgery and voice rest offer a cost effective, useful and safe method for management of benign laryngeal lesions.*

Key Words: *Benign lesions, larynx*

INTRODUCTION

Benign laryngeal lesions are significant because of the importance of spoken or sung communication and the voice's contribution to identity.

Essadi et al[1] studied 15 cases of laryngeal tuberculosis. He concluded that the main symptoms was dysphonia and that diagnosis depends on direct laryngoscopy and biopsy, with histologic confirmation. Medical treatment gives a good outcome.

Chopra et al[2] studied 67 patients with various benign laryngeal lesions. The lesions were categorized and a correlation of clinical, microlaryngoscopic and histologic features was done, as well as evaluation of the age, incidence, occupational factors. They also described the effectiveness of micro laryngeal surgery and speech therapy in the management of these lesions.

Dikkers[3] studied 74 patients (92 vocal folds). They found that benign lesion of vocal folds have various appearances and histopathological examination would provide the diagnosis. Single histological features did not differentiate between clinical entities, instead a combination was more likely to be seen. However an abnormal increase in layers of the basement membrane is seen in vocal polyps, nodules and in Reinke's edema.

Thaker et al[4] studied the presentation of a combined and an external laryngocele. They concluded that an underlying transglottic carcinoma must always be excluded and although treatment entails only a surgical excision, the surgeon must always be cognizant of the danger to the superior and recurrent laryngeal nerves particularly in cases with a past history of inflammatory episodes.

Kambic et al[5] evaluated the morphology of the pathologic substrate, the pathogenesis and analysed the most frequent factors responsible for the formation of vocal polyp such as vocal abuse and unfavourable microclimate during work. They concluded that gender doesn't play a role and the histologic structure is not related to time factor.

Hardingham et al[6] describes a surgical technique that obviates the need for an open operation of the larynx (laryngofissure) in the treatment of laryngeal webs. The web was divided under magnified vision through a laryngoscope using an operating microscope. A silastic keel is secured between the vocal cord at the anterior commissure by means of a loop of nylon passing externally through the cricothyroid and cricohyoid membranes.

MATERIALS AND METHODS

This study consisted of 42 patients from 1997 to 2002. They all had positive clinical findings on indirect laryngoscopy

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and neck examination. All nonoperative cases and malignant cases were excluded.

Investigations included were routine blood investigations, urine microscopy, sputum for acid fast bacillus (AFB), radiological investigations [X-ray paranasal sinuses, X-ray chest (postero anterior view), plain X-ray neck-lateral view], direct laryngeal endoscopy were done. CT scan of neck was done in cases of laryngocele (Figure 1). All the patients underwent microlaryngeal surgery except those patients with laryngoceles and epiglottic cysts. Patients with laryngocele underwent an external approach and excision of sac. Patients with epiglottic cysts underwent direct laryngoscopy and excision of cysts. In case of subglottic hemangioma, a preliminary tracheostomy was done followed by microlaryngeal surgery and excision. All patients underwent postoperative speech therapy.

RESULTS

The youngest patient in our study was 7 year old; the oldest being 80 years. The maximum number of cases were seen in the age group between 31 and 40 years (15 cases). The mean age in years was 38.74 [standard deviation 13.87]. In males the mean age was 39.35 [SD 14.46], while in females the mean age was 36.13 [SD 11.47].

In our study, males were seen to predominate over females with a ratio of 2.82 : 1 (i.e. 31 males to 11 females).

The patients in our study presented with hoarseness of voice (100%); cough (23.81%), foreign body sensation in throat (19.05%), throat pain (9.52%), difficulty in swallowing (4.76%) and difficulty in breathing (2.38%).

The duration of symptoms ranged from 1 month to 2 years; the mean duration of illness in months was 3.93 ± 2.32.

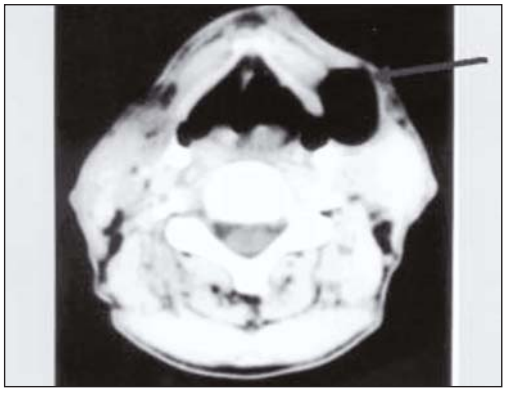

Figure 1: Axial CT of Neck showing Laryngocle.

Most of the cases in our study group had vocal cord polyps (40.47%), vocal nodules (28.57%) tuberculosis of larynx (14.30%), laryngocele (4.76%), laryngeal web (4.76%), epiglottic cysts (4.76%) and subglottic hemangioma (2.38%). However, neoplastic lesions like papilloma, adenoma, chondrama and other non-neoplastic lesions like intubation granuloma, contact ulcer granuloma, reinke's oedema were not encountered. (Table 1)

The commonest site of origin of lesions was from true vocal cords. Nearly 93% of lesions were from true vocal cords. Arytenoids and epiglottis were the next common site (15%).

We had one case of hemangioma of larynx which is incidentally the only case in neoplastic group comprising 2.38% of total lesions.

In our series we had 6 cases of laryngeal tuberculosis. Except of 1 case all were secondary to pulmonary tuberculosis. Out of which only 2 patients were smokers. The main sites of involvement were true cords (5), arytenoids (4) and epiglottis (2).

Mangement of vocal cord polyps, vocal nodules were by microlaryngosocopy and excision biopsy followed by voice rest for 10 days and speech therapy (Figure 2). All these patients had complete recovery.

Laryngeal web was divided under magnified vision and a silastic keel was secured between vocal cords at the anterior commissure by means of nylon passing externally through the cricothyroid and cricohyoid membranes. Both cases of epiglottic cysts underwent direct laryngoscopy and excision under local anaesthesia.

Both cases of laryngocele were treated through an external approach and removal of sac.

Table 1: Duration of symptoms in months

Duration of symptoms	No. of cases	Percentage
0 - 1 months	1	2.39
1 - 2 months	6	14.28
2 - 3 months	7	16.70
3 - 4 months	15	35.60
4 - 5 months	4	9.56
5 - 6 months	5	11.91
> 6 months	4	9.56
Total	40	100

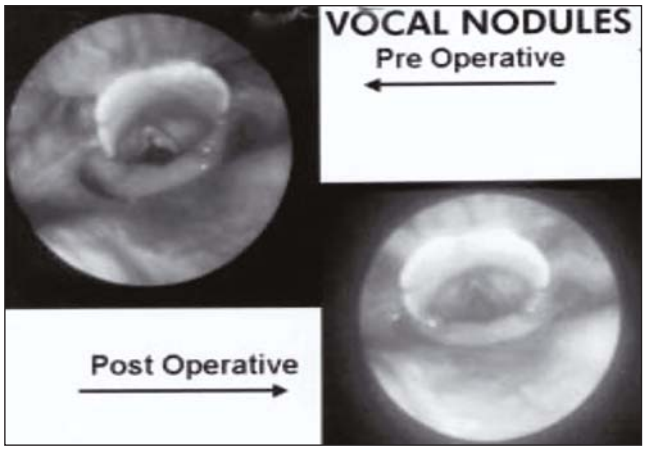

Figure 2: Direct laryngoscopic photograph showing vocal nodules pre and post operatively

All the clinically diagnosed cases were later confirmed by histopathology reports. All the patients had recovered well except for 2 cases of laryngeal tuberculosis because of non compliance of patients.

Prognosis

All the cases were totally symptom free with no recurrence. However 2 cases of laryngeal tuberculosis were partially free of symptoms because of non compliance of patients. (Table 2)

Table 2: Postoperative prognosis

Type of lesion	Recurrence	Symptom free	
		Total	Partial
Vocal cord polyps	0	17/17(100)	
Vocal modules	0	12/12(100)	
Tuberculosis of larynx	0	4/6(66.67)	2/6(33.33)
Laryngocele	0	2/2(100)	
Laryngeal web	0	2/2(100)	
Epiglottic cysts	0	2/2 (100)	
Subglottic hemagioma	0	1/1(100)	

Parenthesis are percentages

DISCUSSION

The results in our series was in concurrence with most of the reviewed studies.

The sex incidence

The sex incidence, with male preponderance, is similar to other studies.[2,7-9]

In our study of benign lesions of larynx, vocal cord polyps were the commonest. This is in accordance with Dikkers[3] et al.

Shaw[10] et al had an incidence of vocal polyps of 71.2%, Kambic[5] et al had an incidence of 68.3%. However Chopra[2] et al had an incidence of 16% only. In their series, the incidence of vocal nodules was 33.33%.

Shaw[10] et al in their series of 1505 cases, surprisingly had not a single case of vocal nodules.

We had one case of hemangioma of larynx, whereas in Shaw[10] et al series neoplastic group comprised of 14% of lesions.

Less number of cases in neoplastic group in our series can be ascribed to less number of cases (42 cases) studied over 5 years as compared to Shaw[10] et al who studied larger number of cases (1505 cases) over a longer period of time.

Tuberculosis of larynx is the commonest granulomatous disease of larynx.[11] In our series we had 6 cases of laryngeal tuberculosis. This is in accordance with Chopra et al[2] who had 3 cases of tuberculosis of larynx, of which 2 were secondary to pulmonary tuberculosis.

The commonest site of origin of lesions was from true vocal cords. Nearly 88.09% of lesions were from true vocal cords. Vocal polyps and vocal nodules which together constituted 69.05% of cases were found at the junction of anterior 1/3rd and posterior 2/3rd of the true vocal cords. This is because the mechanical force of vibration is most intense at this site.[5] Tuberculosis of larynx and laryngeal web also originated from true vocal cords. Both cases of laryngocele studied in our series were of combined variety showing a bulge in right ventricle at the area of vocal cords, together with palpable neck mass on right side. Both cases of epiglottic cysts were unilateral and confined to lingual surface of epiglottis. Hemangioma of larynx was present in subglottic region.

CONCLUSION

The laryngeal dysfunction produces symptoms which can vary from mild hoarseness to life threatening stridor. Laryngeal lesions can create lot of mental and emotional tension in the patient and the family. Early diagnosis of the lesions can lead to effective management and good recovery.

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