CLINICO-ETIOLOGICAL SKETCH OF VOCAL CORD PALSY

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ABSTRACT

OBJECTIVE: To determine clinical features and causes of vocal cord paralysis in our set up.

MATERIAL AND METHODS: This descriptive study was conducted in the department of ENT, Head & Neck Surgery, Hayat Abad Medical complex, Peshawar from January 2010 to December 2012. All newly diagnosed patients of any age and either gender included. After enrollment a detailed history was taken, thorough ENT and systemic examination was conducted especially focusing on the causes of vocal cord palsy. After routine investigation endoscopic examination of the upper aero-digestive tract was carried out to establish the diagnosis and causes of vocal cord paralysis. All these patients were followed regularly. The data was collected on a pre-designed proforma and analyzed using SPSS version 15.

RESULTS: We studied 90 patients over a period of 3 years (2010-2012). Males outnumbered (n=60) with male to female ratio of 2:1. These patients were in age range of 6-85 years with mean age of $47.33 \pm SD$ 21.15 years. The commonest presentation was change of voice (100%). Majority of the patients (n=52, 57.77%) were non smoker. Hoarseness was the dominant (94.44%) presentation of these patients. The commonest causes of vocal cord palsy was idiopathic (34.44%) followed by thyroid surgery (21.11%). Left vocal cord palsy was the commonest finding.

CONCLUSION: We concluded from this study that vocal cord paralysis is still a challenge for ENT surgeon. Although in our study idiopathic cause of vocal cord palsy was on top but thyroidectomy has great contribution to vocal cord paralysis which can be further minimized if surgeon gives some time to identify the recurrent laryngeal nerve during thyroid surgery.

KEY WORDS: Vocal cord palsy, vocal fold paralysis, hoarseness, clinical feature, etiology

INTRODUCTION

Vocal cord palsy is a common problem encountered by ENT surgeon as well as General Physicians¹. Its diagnosis some time may become a dilemma for a treating clinician. The exact incidence of vocal cord palsy has been difficult to rule out due to multiple reasons². Many cases remain undiagnosed because of spontaneous recovery or compensatory mechanism by contra lateral vocal cord¹. Some of the patients are not subjected to laryngoscopic examination post operatively³. It has been noted that there is globally changing trend in the etiology of vocal cord palsy depending upon geo-cultural variation⁴. In 1930's aortic aneurysm and Thyroidectomy were the most

common causes of vocal cord palsy. In 1990's there was a rise in nonlaryngeal malignancy causing vocal cord palsy⁵. Due to advancement in anesthesia and surgical procedure like cervical spine injury, cardiovascular procedures and skull base surgeries, chances of recurrent laryngeal paralysis increased as compared to thyroid surgery⁶. However the incidence of unknown causes (idiopathic) has not reduced with advanced imaging technology⁷.

The aim of this study is to look for the causes of vocal cord palsy in our set up and if possible to minimize that by planning further in this regard.

MATERIAL AND METHODS

This descriptive study was conducted in the department of ENT, Head & Neck Surgery, Hayat Abad Medical Complex, Peshawar from January 2010 to December 2012. All the patients of any age and either gender who were newly diagnosed that having vocal cord palsy were included. The diagnostic criteria were history, clinical and endoscopic examination. Those patients who were already diagnosed in other hospitals or refused recruitment in study were excluded from study. The study was approved from hospital ethical board. A well informed consent was taken from the patients explaining risks, benefits, complication associated with procedure and regarding publication of study which may have their photos. After enrollment a detailed history was taken, thorough ENT and systemic examination was conducted especially focusing on the causes of vocal cord palsy. All these patients were investigated in terms of Hbs, Hcv, Hb%, LFTs, RFTs, Ultrasonography neck and abdomen, CXR, Fine needle aspiration cytology of visible mass, CTscan and MRI when needed. Endoscopic examination of the upper aero-digestive tract was carried out to establish the diagnosis and causes of vocal cord paralysis. All these patients were followed regularly and those cases where no definitive diagnosis was made till 6 months follow up with available investigating tools were labeled as idiopathic. The data was collected on a pre-designed proforma and analyzed using SPSS version 15.

RESULTS:

We studied 90 patients over a period of 3 years (2010-2012). Males outnumbered (n=60) with male to female ratio of 2:1. These patients were in age range of 6-85 years with mean age of $47.33 \pm$ SD 21.15 years, and $33.17 \pm$ SD 13.18 years for males and females respectively. Duration of symptom varied from 3 months to 48 months with mean duration of $8.33 \pm$ SD 5.25 months. Majority of the patients (n=52, 57.77%) were non smoker and 38 (42.22%) patients had history of smoking. Hoarseness was the dominant (84.44%) presentation of these patients (Graph 1). The commonest causes of vocal cord palsy was idiopathic (34.44%) followed by thyroid surgery

(21.11%) (Table 1). Left vocal cord palsy was the commonest findings in females of 41-60 years old while bilateral vocal cords palsy was found in 5 cases (5.55%) (Table 2).

Graph 1: Clinical presentation of patients with vocal cord palsy.

Table 1: Causes of vocal cord palsy observed in this study (n=90).

Causes of Vocal Cord palsy/Fixation	No of cases	Percentage
Idiopathic	31	34.44%
Thyroidectomy	19	21.11%
Laryngeal malignancy	13	14.44%
Thyroid malignancy	11	12.22%
Non surgical trauma	9	10%
Hypopharyngeal malignancy	5	5.55%
Bronchogenic carcinoma	2	2.22%

Table 2: Gender, side and age wise percentage of vocal cord palsy (n=85).

Gender	Side of Palsy	Age Range (Years)	Frequency	Percentage
Male	Right Vocal Cord Palsy	<20	2	2.35%
		21-40	9	10.58%
		41-60	15	17.64%
		61-80	10	11.76%
		>80	3	8.23%
Female	Left Vocal Cord Palsy	<20	5	5.88%
		21-40	15	12.94%
		41-60	17	20%
		61-80	6	7.05%
		>80	3	3.52%

DISCUSSION

Vocal Cord paralysis is not an uncommon finding in ENT practice. The diagnosis of vocal cord palsy remained a challenge for otolaryngologist in the past; even some have been remained undiagnosed because patient had no significant presentation⁸. With advancement in technological diagnostic tool now the diagnosis of vocal cord palsy had improved as compared to previous⁹. Although in

the past 5 decade a change has been observed in the pattern of etiology of vocal cord paralysis due to revolution in life style of human being around the globe¹⁰. We study clinical presentation and causes of vocal cord palsy. Almost every age patient was observed in this study with age range of 6-85 years with mean age of 47.33 years which is in accordance to the study of Pavithan¹¹ where mean age of patients was 47.5 years but it differs from results of Jaya et al¹² where mean age of patients was 57.8 years. In this study male were dominantly involved which is comparable to the study of Pavithan¹¹ from India who also found that male outnumbered. The reason may be some similarity in the population of both countries. This result is at variance from other studies where females were in majority⁹⁻¹¹. In this study the commonest presentation of patients was change of voice (84.44%) followed by cough (30%) and breathlessness (16.66%) which in keeping with results of Ko et al¹³ where most of the patients were complaining of change of voice and difficulty in speaking. In this study 5 cases (5.55%) had bilateral vocal cord palsy presented with stridor which is coping with Kaushal¹⁴ who found that main presentation of his patient was stridor due to vocal cord palsy. We encountered a no of causes of vocal cord palsy but idiopathic was on top (34.44%) which is less than result of Pavithan¹¹ who found that idiopathic causes were 42.10 %. Beside other causes thyroid surgery was the second most common cause (21.11%) of vocal cord palsy that is not comparable to the result of Pavithan¹¹ where thyroidectomy was responsible for 40.7% vocal cord palsy. The reason could be lesser no of patients in our study and now trend of searching recurrent laryngeal nerve during thyroidectomy is on rise in our set up. The incidence of vocal cord palsy is more common in total thyroidectomy than other types of thyroid surgeries¹⁰. Malignancy of upper aero- digestive tract is increasing globally due to increase in carcinogens in our environment⁶. In this study vocal cord palsy due to malignancy was laryngeal (4.44%) thyroid (12.22%) and hypopharyngeal malignancy (5.55%) which is comparable to the studies of Rosenthal^{15,5} and Sulica¹⁶ who also found that malignancy of larynx, esophagus and thyroid result in vocal cord paralysis. We found that 5

patients had bilateral vocal cord palsy presented with stridor and tracheostomy was carried out while in other patients left and right vocal cord was paralyzed individually but left vocal cord was dominantly (51.11%) involved which is in accordance to Pavithan¹¹ study where left side cord palsy was 61.1%. The reason could be assumed to be long course of recurrent laryngeal nerve on left side which is more prone to the lesions of chest, neck and skull base.

CONCLUSION

We concluded from this study that vocal cord paralysis is still a challenge for ENT surgeon. Most of the patients can be diagnosed clinically due to change of voice but to get confirm exact cause of vocal cord palsy a meticulous evaluation of every patient is needed. Although in our study idiopathic cause of vocal cord palsy was on top but thyroidectomy has great contribution to vocal cord paralysis. We suggest that vocal card paralysis can further be minimized if surgeon gives some time to identify the recurrent laryngeal nerve during thyroid surgery. Left recurrent laryngeal nerve is more prone to paralysis due to its long course which is also concluded from this study.

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