

Up to Date Clinical Assessment of Squamous Cell Carcinoma of The Larynx in Iraq.

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ABSTRACT

The larynx is located in the upper anterior portion of the neck. It lies between the 3rd and 6th cervical vertebrae. The incidence of Squamous cell carcinoma (SSC) of the larynx is about 25% of all head and neck malignancies. The most common age involved is middle and old age (between 50 to 70 years). Unfortunately, it has been found that the tumour presents with advance stages at the time of diagnosis. This prospective literature has been done in the department of Otolaryngology in Alkindy Hospital in Iraq. Forty two patients with laryngeal tumour (SCC) at variable stage has been involved in the study. History taking using a special quastionair, proper ENT examination and radiological imaging has been taken from all participated patients. Our results shows that hoarseness of voice is the most common symptoms. Furthermore, men are more affected than women and the most common site involved by the tumour in the larynx is the supraglottic part. Further studies is required for accurate staging of the tumour using both clinical evaluation and radiological imaging.

INTRODUCTION

The larynx or voice box is located in the upper anterior part of the neck, just superior to the trachea(Monnier, 2011). It extends between the third and sixth cervical vertebrae(Armstrong, 1995). In infants, the larynx positioned at higher level than adults, just below the level of the tongue(Inamoto, 2015). During development it descent down to the normal adult position. The laryngeal framework is composed of cartilages, connected by membranes and moved by both extrinsic and intrinsic groups of muscles(Noordzij, 2006). The mucous membrane that lining the inner surface of

the larynx is continuous superiorly with the pharyngeal lining and inferiorly with mucous lining of the trachea(Burdett, 2011).

The cartilaginous skeleton of the larynx is composed of several paired and unpaired cartilages(Noordzij, 2006). Thyroid, cricoid and epiglottis are single cartilages, whereas arytenoid, cuneiform, and corniculate are paired cartilages(Monnier, 2011). The cavity of the larynx is distributed into three parts, supraglottis, just above the false cords or vestibular folds, ventricle, which is located between vocal and vestibular folds and infraglottis, which is situated inferior to the vocal folds(Inamoto, 2015). The main laryngeal functions are breathing, vocation by vibration of the vocal cords, and airway protection especially during swallowing(Vaezi, 2003).

The incidence of laryngeal tumour is found to be 25% of head and neck oncologies. The most common age predominance is between 50 to 70 years(Wang, 2016). The occurrence of the patients with laryngeal carcinoma is more in heavily industrialized cities (two to three times) than in rural areas(Peller, 2016). The most frequent predisposing factors of squamous cell carcinoma in the larynx are cigarette smoking and less commonly alcohol ingesting(Gourin, 2009). The other less common aetiologies that increase the risk of carcinoma in the larynx are dietary habits (red meat), gastro-oesophageal reflux, and Human Papilloma Virus or (HIV) infection(Zhang, 2013).

Inappropriately, at the time of diagnosis, about 60% of patients with laryngeal tumours presents with advance stages of disease and one of the tumours with low five years survival in the last four decades(Walther, 1995).The sites and types of squamous cell carcinoma are supraglottic, glottis, infraglottic and transglottic carcinoma(Peller, 2016). Patients with laryngeal cancer are commonly presents with hoarseness of voice, dysphagia or difficulty in swallowing, dysphonia and breathing difficulties(Xun, 2020)(Gourin, 2009). The primary clinical evaluation of the patients is by a proper history taking, initial physical assessment, and determination of the main risk factors(Wang, 2016). Endoscopic examination by using flexible nasolaryngoscopy is essential for assessment and examine the laryngeal surface lining(Markou, 2013). This procedure is occasionally not satisfactory and sometimes is mandatory to use direct laryngoscopy and biopsy taking in the operating theatre under general anaesthesia(Raitiola, 1999). Clinically, most patients with squamous cell carcinoma, undergo imaging techniques, for instance, MRI, CT scanning, and PET, which has higher degree of specify in the diagnosis and subsequent management(Xun, 2020).

METHODS

This literature is designed as a prospective study. It was done in the Otolaryngology Department in Alkindy Teaching Hospital-Baghdad in Iraq from September 2018 to November 2019.At this time, (42) patients with Squamous Cell Carcinoma (SCC) of the larynx at different stages have been selected and admitted to the hospital. Detailed

history was obtained from them including, name of the patient, gender, age, job, habits (smoking, alcohol consumption, dietary habits), living region, and chief presenting symptoms (hoarseness, difficulty in swallowing, earache, stridor, cough, loss of weight, odynophagia, haemoptysis and difficulty in breathing)

A detailed physical and ENT examination by using both rigid and flexible nasolaryngoscopy. The assessment concentrated on the location, type and side of the tumour, movement of the vocal cords, inter-arytenoid area assessment and pooling of the saliva. Furthermore, head and neck examination finished for any lymph nodes enlargement, and determine the number and level of the affected lymph nodes. Every patient included in the study has been assessed by CT scan and MRI. Moreover, biopsy from the lesion has been obtained and sent for histopathological evaluation.

STATISTICAL ANALYSIS

The incidence distribution for specific variable was done initially. Statistical Set for Social Sciences (SPSS) was used for statistical analysis. All the data has been interpreted into a special computerized data base.

RESULTS

The research included 42 individuals with mean age of 61 for men and 63.1 for women and (62.7) for both sexes. The forty two patients included in the study, 19% (9) were women and 81% (34) patients were men. The ages of the patients among women ranged between 50 to 70 years, while among men patients were between 36 to 78 years.

Based on the detailed history, the most frequent presenting symptoms of the patients was hoarseness of voice (47.6%). Subsequently, stridor which considered (47.6%), then, throat pain (2.4%) and soreness of the throat (4.8%).

According to the site of carcinoma, the results represent 50% of tumours located in the supraglottic area, whereas, glottis 29% and transglottic comprise 21%. Furthermore, subglottic tumour has not been detected in this study.

Table -1 represent the mean age of both genders and the frequency distribution of patients by gender

Gender	No	%	Age range	Mean Age	SD
Female	8	19	(50 - 70)	61	6.8
Male	34	81	(36 - 78)	63.1	11.3
Total	42	100			
The Male to Female ratio is 4:1					

Table -2 shows the distribution of patients by the most frequent presenting symptoms. Highly significant (HS) $P < 0.01$.

Main symptoms	No.	%	C.S.(*) P –value.
Hoarseness of voice	20	47.6	K - S (test) K – S = 0.329 P = 0.000 HS (*)
Throat Pain	1	2.4	
Stridor	18	42.9	
Hemoptysis	1	2.4	
Sore throat	2	4.8	
The Total	42	100	

Table -3 shows the frequency distribution of study sample by gender with a mean age for both genders

Gender	No.	%	Range	Mean age	SD
Female	8	19	(50-70)	61	6.8
Male	34	81	(36-78)	63.1	11.3
Total	42	100			
The Male :Female ratio is 4:1					

Table -4 shows the frequency distribution of the patients by the location of the tumour.

Tumor site	No.	%	C.S.(*) P- value
Supraglottic	21	50	Chi-Square (test) $\chi^2 = 5.571$ P=0.062 NS C.L. = 93.8%
Glottis	12	28.6	
Transglottic	9	21.4	
Total	42	100	

DISCUSSION

Based on the result of the study, hoarseness of voice is the commonest presenting symptom 47.6%. Stridor 42.9%, throat pain and discomfort 4.8%, sore throat 2.4% and hemoptysis 4.2%. These findings are well connected with recent studies which reported that hoarseness of voice is the most presenting complain of laryngeal carcinoma which constitute 35%, dyspnea and stridor 30%, difficulty in swallowing 15%, presence of a mass in the neck 10% and sore throat 5%(Xun, 2020)(Chu, 2008).

Other published literature has been reported that hoarseness of voice is the commonest presenting complain 74.1%, while stridor 33% and earache 22.3%(Raitiola, 1999).

In the present study, supraglottic area is found to be the most involved site by the tumor 50%, while the glottic and transglottic tumors, were 21.4%, and 21.4% subsequently. These results concomitant with similar study which reported that supraglottic region is more involved than other sites in the larynx (46%), while the frequency distribution of glottic region (37%), subglottic region (9.3%) and transglottic region (7.7%)(Zhang, 2013)(Gourin, 2009). Our results different with other literature who represented that glottic carcinoma is the commonest type(Markou, 2013). In our study there was no tumor involved in the subglottic are as a single involvement.

It has been detected that there is a considerable increase in the prevalence of carcinoma of the larynx in the last five decades particularly in east countries, at the same time the ratio of male to female is reduced(Xun, 2020). The ratio of male to female involvement is varied internationally(Chu, 2008). In Europe the ratio is 7 to 1, whereas, international distribution of the ratio differs from 5 to 1 to 30 to 1(Peller, 2016). In this work we represented from twenty four patients with laryngeal carcinoma 34 individuals (81%) were male and only 8 patients (19%) were female, concomitant with male to female ratio of 4:1. These finding may be associated with cigarette smoking and alcohol ingestion as major risk factors for the development of SCC of the larynx. Nevertheless, they have noted a significant increase in the percentage of women with laryngeal tumor(Wang, 2016).

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