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Hadramout Coastal Region.
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سرطان الحنجرة: دراسة مرضية سريرية لـ 79 حالة من منطقة حضرموت الساحلية

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ABSTRACT

Objective: The aim of this study was to estimate the trend of laryngeal cancer in Yemen.

Method: a retrospective study of (79) cases of laryngeal lesion, were conducted between 2012-2022,

Results: Laryngeal cancer represented 41.8 % of all cases with male predominance, most of them were over 50 years old (58.2%). Hoarseness is the most compliance 84.6%, most

malignant cases were well differentiated squamous cells carcinoma 27.8%, the majority arises from vocal cord (NOS) 40.8 %.

Conclusion : Laryngeal Squamous Cell Carcinoma is the most common malignancy of the larynx in Hadramout Costal Region. Men and elderly people are the high risk population.

Key words : Laryngeal cancer, Hadramout.

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ملخص البحث:

معظم الحالات السرطانية الخبيثة يتم التعرف عليها بشكل واضح وهي من النوع سرطان حرقشفية الخلايا بنسبة 27.8% حيث أن الأغلبية تنشأ من الحبال الصوتية .

الاستنتاج: سرطان الحنجرة من النوع حرقشفية الخلايا هي أكثر أنواع السرطانات الخبيثة التي تصيب الحنجرة في محافظة حضرموت وخاصة في المنطقة الساحلية، حيث فئة الرجال وكبار السن هم الأكثر عرضة للمرض.

الكلمات المفتاحية: سرطان الحنجرة. حضرموت.

تهدف هذه الدراسة إلى تقييم مدى انتشار وتوجه سرطان الحنجرة في اليمن.

اعتمدت هذه الدراسة على النموذج البحثي الاسترجاعي لعدد 79 من الحالات المصابة بضرر في الحنجرة والتي أجريت ما بين الأعوام 2012 - 2022.

وتوصلت الدراسة إلى أن سرطان الحنجرة يمثل ما نسبته 41.8% من بين جميع الحالات والتي تصيب الذكور الذين تزيد أعمارهم عن 50 سنة بنسبة 58.2%، العرض الرئيسي الذي يظهر على المريض يتمضي معاناة المريض المستمرة من بحة في الصوت وهو العرض الشائع في المرض بنسبة 84.6%.

Background

Laryngeal carcinoma is the eleventh-most common form of cancer among men worldwide and is the second-most common malignancy of the head and neck¹. They may arise at any anatomical level more commonly in the glottic region and least commonly in the subglottic area². Symptoms vary according to site of tumor and stage of the disease , hoarseness is the most common presenting complain but other symptoms as dysphagia, dyspnea, stridor, otalgia and sore throat may present⁽³⁻⁵⁾. The vast majority of laryngeal cancers are Squamous cell carcinoma^{6,7}. Laryngeal squamous cell carcinoma represents the second most common malignancy of respiratory tract after lung cancer⁸. it is strongly associated with tobacco use and alcohol misuse. Men are more likely to be affected (5:1) than women and the mean age of patients is 65 years⁹. A study in Yemen revealed that more than 95% of

laryngeal tumors were malignant and men were more likely to have the disease¹⁰. Studies regarding laryngeal cancers in Yemen are still insufficient. This study aims at determining the incidence of laryngeal tumors in Yemen and to describe its relation to sex and age.

Methods

A retrospective, based on clinical data sheets and histopathology laboratories reports was conducted in Hadramout coastal region, Yemen, From 2012 to 2022. A total of 79 patients with laryngeal lesion were enrolled in this study; 69 males and 10 females. Data were collected by a special form included age, sex, behavior of the lesion, symptoms, method of obtaining tissue, site of the lesion and its histological type and grade. Collected data were processed and analyzed using the Statistical Package for Social Sciences SPSS Version 24. Categorical variables were calculated in frequencies and percentage, and compared using Chi square. P value < 0.05 was considered significant.

Results

In this study 79 patients were involved, 69 males and 10 females. The vast majority of patients were above 50 years of age (58.2 %). Table (1) demonstrates the demographic characteristics of the patients. (68.4%) of patients were from rural areas and (31.6 %) were urban. (84.6%) of patients complained of hoarseness as the main symptom, (9%) complained of cough and (6.4%) complained of pain. Regarding the lesion behavior (46.8 %) of the laryngeal lesions were benign, (41.8%) were malignant and (11.4%) precancerous.

Table (2) shows the site of the laryngeal lesions. (40.5%) of lesions were from the vocal cords (NOS), (38%) from the larynx (NOS), (13.9%) from the left vocal cord and (7.6%) from the right cord. In Table (3), Tissue obtained by excisional biopsy in (55.7%) of patients, biopsy during laryngoscopy in (39.2%) and only (5.1%) by total laryngectomy. On histopathological exam, the vast majority (43%) were Squamous Cell Carcinoma (SCC) as demonstrated in table (4), all were in men, none of the females were affected. Laryngeal Nodule was the second most frequent lesion of the larynx.

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Table (1): Demographic characteristics of the selected patients

characteristic	No	%
Sex		
Male	69	87.3
Female	10	12.7
Age		
<30	10	12.7
31-50	23	29.1
>50	46	58.2
Residence		
Urban	25	31.6
Rural	54	68.4
Symptom		
Hoarseness	66	84.6
Cough	8	9.0
Pain	5	6.4
Behavior		
Benign	37	46.8
Malignant	33	41.8
Pre-cancerous	9	11.4

Table (2): Site of the laryngeal lesions

Site of the lesion	NO	%
Larynx (NOS)	30	38.0
Vocal cord (NOS)	32	40.5
Left vocal cord	11	13.9
Right vocal cord	6	7.6

Table (3): Surgical procedure for obtaining the tissue sample

Procedure	No	%
Excisional biopsy	44	55.7
Punch Laryngoscope biopsy	31	39.2
Total Laryngeactomy	04	5.1

Table (4): Type of laryngeal lesions among selected patients

Histological type	No	%
Squamous cell carcinoma	34	43
Laryngeal Nodule	21	26.6
Pyogenic Granuloma	8	10.1
Plasma Cell Granuloma	1	1.3
Fibro-epithelial Polyp	2	2.5
Squamous Cell Papilloma	8	10.1
Laryngeal Duct Cyst	4	5.1
Chronic Inflammation	1	1.3
Total	79	100

The grade of differentiation of SCC in table (5) and (6) indicates that (27%) of lesions were well differentiated SCC, 4 (5.1%) poorly differentiated and 8 (10.1%) moderately differentiated. Results revealed that sex and age are significant factors for LSCC, P value = 0.027, P value = 0.02 respectively.

Table (5): Distribution of Laryngeal Squamous Cell Carcinoma grades among males and females.

Grade of differentiation of LSCC	Sex		Total		p-value
	Male	Female	No	%	
Well Differentiated Squamous Cell Carcinoma	22	0	22	27.8	.027
Moderately Differentiated Squamous Cell Carcinoma	8	0	8	10.1	
Poorly Differentiated Squamous Cell Carcinoma	4	0	4	5.1	
Total	34	0	12	15.2	

Table (6): Distribution of Laryngeal Squamous Cell Carcinoma grades among different age groups.

LSCC	30>	31-50	>50	Total		P-value
				NO	%	
Well Differentiated Squamous Cell Carcinoma	0	3	19	22	27.8	.002
Moderately Differentiated Squamous Cell Carcinoma	0	0	8	8	10.1	
Poorly Differentiated Squamous Cell Carcinoma	0	1	3	4	5.1	
Total	0	4	30	34		

Discussion

Laryngeal carcinoma is the eleventh-most common form of cancer among men worldwide and is the second-most common malignancy of the head and neck. The primary functions of the larynx involve phonation, respiration, and deglutition but it also contributes to taste and smell by allowing the movement of air over the special sense organs. Thus, loss of laryngeal function affects speech and swallowing and some of the senses that allow us to enjoy the world¹. In this paper we study the behavior of Laryngeal lesions and its relation to sex and age.

Our study revealed that benign neoplasms were more than malignant ones in contrast to other studies^{10,11}. The vocal cords were more currently affected, mainly the left cord. This is in agreement with previous studies^{2,6}.

According to a study introduced by Zhang and Wang et al. in 2020, the number of laryngeal cancers is increasing year after year and the last decade showed rapid increase in the number of cases. Demographic characteristics showed a significant variation⁸. Males were the high risk population in our study. This result is in agreement with other studies⁽⁶⁻⁹⁾.

Laryngeal cancer is being one of the most common cancers of Head and Neck that results in significant destruction of the anatomy and function of this part of the Neck demonstrated in the various symptoms presented by the patients. In our study most of the patients presented with hoarseness as the main symptom. This is in agreement with other studies have reported⁽³⁻⁷⁾. Patients from rural areas in this study appear to have laryngeal lesions more than those coming from urban cities. This is in agreement with a study by Fasunla et al.⁶ The age of patients in our study has a wide range from less than 30 to above 50 years and aging seems to increase the chance of laryngeal tumors this consistent with other studies⁽⁶⁻⁹⁾.

Malignancies of the larynx may arise from the epithelial tissue or from the stroma. The results in our study estimates that LSCC constitutes the vast majority of laryngeal cancers in agreement with previous studies^{2,6,7}. Males are more affected and old age patients are at a higher risk for LSCC, this is in agreement with previous studies⁸.

Conclusion:

Laryngeal Squamous Cell Carcinoma is the most common malignancy of the larynx. Men and elderly people are the high risk population.

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