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RESEARCH ARTICLE

CLINICAL PRESENTATION OF LARYNGEAL CANCER IN SUDANESE PATIENTS

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ABSTRACT

Background: Laryngeal cancer is a common disease a among Sudanesesmoker. It is a type of neoplasm that has the largest male to female ratio in Sudan.
Objective: To provide a review of the clinical pattern and to determine the etiology of laryngeal cancer among the Sudanese patients.
Justification:-

- Cases of laryngeal cancer are increasing in Sudan.
- There were no publications regarding laryngeal cancer in Sudanese patients to my knowledge expect that reported by Sharfi.

Methods: It was a prospective study, random sample, cross sectional where 82 patients who were treated at Khartoum state hospitals during the period from March 2014 to Nov 2016. Videolaryngoscopy, plain chest x-ray, CT - scan of the neck and thorax and Microlarynogoscopy studies were done to all patients.
Results: The larynx was examined with Direct microlarynogoscopy for all patients. laryngeal masses were found in the vocal cords. Biopsies confirmed the diagnoses.
Conclusion: Laryngeal cancer was common among Sudanesesmoker patients and less common in non smokers.

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INTRODUCTION

Cancer of the larynx is rankedas the fourteenth most common cancer worldwide and it is the most common cancer in the head and neck (Villanueva-Reyes, 2008). Laryngeal cancer is a multifactorial disease, associated with a variety of lifestyle factors, environmental factor and smoking is the predominant risk factor for laryngeal cancer (Sadri, 2006). Most laryngeal cancers are squamous cell carcinomas. Cancer can develop in any part of the larynxand the majority can originate in the glottisthe cure rate is affected by the location of the tumourandtumour staging (Villanueva-Reyes, 2008 and "SEER Stat Fact Sheets: Larynx Cancer, 2014). The disease affects more men than women (Villanueva-Reyes, 2008; Sadri, 2006; Thawley, 1999; Laryngeal cancer at Mount Sinai Hospital). Three-quarters of all diagnoses occur in patients older than 60 years (Jones, 2016). The symptoms of laryngeal cancer depend on the size and location of the tumor. Symptoms may include the following: Hoarseness of voice, alump in the neck and stridor (Villanueva-Reyes, 2008 and Sadri, 2006). Etiology of laryngeal cancer include; tobacco and alcohol are the most important etiological factors and most likely have a synergistic effect and also Human papilloma virus (HVP) (Thawley, 1999). Work-related exposure to substances such as nickel may also play a role in etiology (Pedersen, 1973). There is no hereditary risk for squamous epithelial carcinoma in the larynx (Mork, 1999) and smoking is the most important risk factor for laryngeal cancer. Death from laryngeal cancer is 20 times more likely for heaviest smokers than for nonsmokers (Ridge, 2008). The disease caused by both genetic and environmental factors (Brockmoller, 2000). Besides, several other kinds of environmental factors, such as smoking and alcohol intake (La Vecchia, 2008), human papillomaviruses infection (Poljak, 2013) and silica exposure (Chen, 2012). Some other quoted risk factors are likely, these include low socioeconomic status, male sex, and age greater than 55 years (SEER Stat Fact Sheets: Larynx Cancer, 2014). The combined consumption of alcohol and tobacco increases the laryngeal cancer risk in a synergistic (Laryngeal cancer at Mount Sinai Hospital). In females, we need to consider other habits in Sudan like the types of foods, smooking used for other purposes(Dokhan) and some materials

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uses for cleaning (clorex, etc) (http://www.sudjms.net/index.htm). diagnosis is made by the doctor on the basis of a medical history, physical examination, and special investigations which may include a chest x-ray, CT or MRI scans, and tissue biopsy. It is the neoplasm with the largest male to female ratio in most populations. Thus, inadequate data are available on women (Sharfi, 2012). The male to female sex ratio for laryngeal cancer is about 10: 1 (Levi, 1992). Trends over time in mortality were unremarkable for women as most published data reported in men (Lucchini, 1999). Amongthe few investigations providing data on women was a case-control study from the United States, including 56 females with the relative risk of 28.2 for smokers of >20 cigarettes/day compared with nonsmokers (Wynder, 1976). No data is found up to date related to African and Arab women (Sharfi, 2012).Variations in laryngeal cancer incidence rates have been generally related to changes in tobacco and alcohol consumption. However, other relevant factors may be present among women (Levi, 1992). Among these, diet may have a role in laryngeal carcinogenesis. Diet poor in fruits and fresh vegetables is associated with an increased laryngeal cancer risk (Tavani, 1994). Flexible endoscopy, possibly with loop laryngoscopy and Directmicrolaryngoscopy with biopsy.Fine needle cytologyand possibly with ultrasound (Wittekind, 1973). Specific treatment depends on the location, type, and stage of the tumours. Treatment may involve surgery, radiotherapy, or chemotherapy, alone or in combination (Cancer - throat or larynx).

MATERIALS AND METHODS

This is a prospective study, cross sectional, random conducted at Khartoum state hospitals (Three ENT hospitals and four ENT units in general hospitals.) during the period from March 2014 to Nov 2016, 82 patients who diagnosed by the author as laryngeal carcinoma were included in the study and non-Sudanese were exculded. Following detailed history, general and local examination, for all patients Videolaryngoscopy was performed on the outpatients clinic. Chest CT and CT/MRI of the neck and also Flexible laryngoscopy were performed to all patientsto exclude metastases. Direct laryngoscopy was done under general anaethesia and biopsies were taken from the laryngeal masses for histopathology. If possible few words regarding process of histopahology and done by whom i.e, senior histopathologest. Short background of these hospital.

Data collection and management

The data were collected using a carefully structured designed questionnaire designed by author and experts filled in by the E.N.T surgeons directly from all patients, then analyzed through Statistical program. The patients were seen pre-and postoperatively and assessed clinically and endoscopically.

Ethical Clearance

I explained verbally to the patients the aim of the study, data collection, and the need of investigations and regular follow up. All the patients they have a written consent and the privacy of patients represents top priority to us. The hospital ethical committee approved the study.

RESULTS

Table (1) shows that male gender were 95.1% (78) cases while female were only 4 patients(4.9%) and the disease was common in the age group more than 60 years of age and it accounted about 46 patients (56.1%) p value (0.000). Regarding the relationship between age groups and gender the disease was common in more than 60 years male group (56.1%) while it was less common in young age group between 25-40 years old patients accounted about 4.9% in both male and femaletable (1) p value (0.000). Regarding the social history of the patients smooking was the commenst predisposing factor about 75.6%.For smooking habit and gender; males were predominately 75.6% while females were 0% table (2) p value (0.000). The 4 females whom were found in this study were ranged in the age between 25-60years old and they were notsmoking, not alcohol consumptions and no confirms important risk factors for women in Sudan as for men. 100% of patient presented with hoarseness of voice, few of them (20%) were presented with stridor.

Regarding the histopathologicaltype: all male patients77 (93.9%) had a squamous cell carcinoma of the larynx at glottis region except one patient who had a rare histopathology; botryoid sarcoma of the larynx1(1.2%). All female 4(4.9%) gender they had squamous cell carcinoma table (3)*P.v=0.001.* Only one patient(66 years old male) had botryoid sarcoma of the larynx(stageI) which it was a an embryonic type of sarcoma normally found in children at age of 3-8years and rarely can affected adult male and larynx.

Table 1. shows age and gender group. N=82

Age	Gender		%
	Male	Female	
25-40	2	2	4 (4.9%)
41-60	30	2	32(39%)
More than 60	46	0	46(56.1%)
Total	78	4	82(100%)

P.v=0.000

Table 2. Shows smoking and gender. N=82

Smoking	Gender		%
	Male	Female	
Yes	62(75.6%)	0	62(75.6%)
No	16(19.5%)	4(4.9%)	20(24.4)
Total	78(95.1%)	4(4.9%)	82(100%)

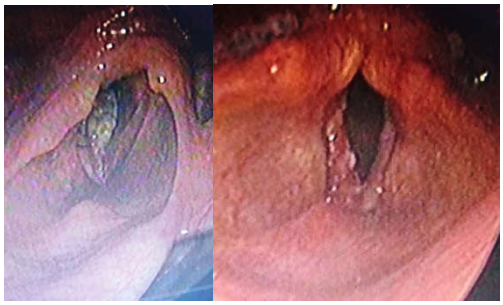
p.v=0.000

Table 3. The histopathologicaltypeand gender. N=82

Histopathology	Gender		%
	Male	Female	
Squamous cell carcinoma	77(93.9%)	4(4.9%)	81(98.8%)
Botryoid sarcoma	1(1.2%)	0	1(1.2)
Total	78(95.1%)	4(4.9%)	82(100%)

P.v=0.001

Some endoscopic photos of the patients with laryngeal cancer



DISCUSSION

It was a prospective study, random sample , cross sectional where 82 patients who were treated at Khartoum state hospitals during the period from March 2014 to Nov 2016. Laryngeal cancer was common in Sudanese male (95.1%) and this in agreement with most of the published literatures (Ridge, 2008; Levi, 1992; Jones, 2016). Smoking and alcohol consumptions were the commenst predisposing factors and also these was elicited by all authors in the literature (Villanueva-Reyes, 2008; Ridge, 2008; Thawley, 1999; Levi, 1992; Wynder, 1994). All patients presented with hoarse voice (100%) 0.000methods ; CT/MRI Neck, Flexible loop laryngoscopy and Direct microlaryngoscopy also these methods were used by*Wittekind C and othrs* (Villanueva-Reyes. 2008; Sadri, 2006; Wittekind, 2005 and Sharfi, 2012). Squamous cell carcinoma was the commenst histopathological type and this was goes with *MorkJetal result and other authors* (illanueva-Reyes. 2008; Sadri, 2006 and Mork, 1999). With regard to the rare case in this study : the 66 years old male who had a botryoid sarcoma of the larynx,the disease used to be uniformly fatal, with a 5years survival rate between 10 and 35 %[20].Unfortunately the patient was died immediately(2 weeks) post Radiochemotherapy sessions.

Conclusion

- Laryngeal cancer was common in Sudanesesmoker maleabove 55 years old.
- Significant differences by sex were observed it was also recently appear in female.
- Diagnosis was made by direct laryngoscopy and confirmed histopathologically and Squamous cell carcinoma was the commenst type.

Recommendations

A person who reports smoking and alcohol drinking habits should undergo regular medical check-ups for laryngeal cancer. Patients who experience voice changes should be sent for a consultation with ENT specialists.

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