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HEAD AND NECK CANCER IN SUDANESE PATIENTS 2011-2016

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ABSTRACT
This prospective hospital based study included all cases of head and neck cancer diagnosed in E.N.T department by the author in Elmac Nimer university hospital between 2011---2016 in Shendi 180 kilometer north of Khartoum Sudan. The study included all cases diagnosed to have head and neck cancer histopathologically and we exclude all areas not involved in head and neck cancers. It included 71 patients with head and neck carcinoma. 39 (54.93%) of them were males and 32(45.07%) were females. The ages of the patients is younger than international patients with head and neck cancers. Since head and neck cancers involved many areas a variety of symptoms and signs were noticed, As in most studies squamous cell carcinoma is predominant others Histopathological types were found in the study, No clear risk factors a part from snuff use in oral and oro pharyngeal cancer and history of plummer Vinson syndrome in hypo pharyngeal carcinoma and upper eosophagus. Most of the patients come for diagnosis late in the 3rd and 4th stages. Furthers studies in the risk factors especially oncogenes and early detections of precancerous lesions may help in early diagnosis and managements. Health educations for the causes and risk factors may help to decrease incidence of head and neck cancer and improve management and prognosis in north of Sudan in which the snuff use (tokomak)is common social habit.

INTRODUCTION AND LITERATURE REVIEW
Head and neck cancers is a group of cancers that developed in the or around the throat, larynx. nose, Para nasal sinuses neck and the mouth. The cancers that developed in the thyroid. Skin. Bones. brain. Skin of the nose and malignancy of the esophagus are not part of the head and neck cancer.[1]

The head and neck cancer is the 6th leading cancer by incidence world wide. The annual incidence of head and neck cancer is more than550 000 cases with rounds 300 000deaths in the world. In Sudan the head and neck cancers represent about 13.5% 0f all cancers.[2.3]

In USA the head and neck cancer accounts about 3% of all cancer with male predominant with elderly age more than 50 years and most of it develop in the mucosal lining[4]

The symptoms and signs of head and neck cancers are differ with the sites involved.

The diagnosis of head and neck cancers depends on meticulous history and physical examinations, radiological assessment. Endoscopic assessment including biopsy sometimes may need to do DNA analysis. Distant metastasis can occurs to the regional lymph nodes of the neck and others areas and an enlarge lymph node are often the first or the only sign of the disease when the patient come for diagnosis.[5]

Head and neck cancer had aggressive behavior and high risk of developing another head and neck cancer.

Head and neck cancers had strong associations with tabbaco, smooking, snuff use, alcohol, UVlight and some strains of viruses like human papilloma virus and Epstein Barr viruses.[6] Head and neck cancers are highly curable if detected early, The treatment of head and neck cancers varies by primary site and stage of the tumors. Many modalities of management are used including surgery, chemotherapy and irradiation.[7] Despite advances in diagnostic tools and treatment modalities, almost two-thirds of patients with HNSCC present with advanced disease (stages III and IV). In the early stages of the disease (I and II), patients with HNSCC have a 5-year survival rate of 70% to 90%, independent of the sub location or modality of treatment.[8]

Oral Cancer (mouth cancer)
Typically the oral cancer started as a lump or unhealed ulcer for at least three weeks. Most of the oral cancers are squamous cell carcinoma. Sometimes salivary glands cancers develop in the oral cavity.[9] Oral cancer in Sudan

constitute a serious health problem, and squamous cell carcinoma is the most prevalent type of oral malignancy mainly in adult males with high link with tokomaks[10]

Some oral lesions are precancerous this include leukoplakia; erythroplakia; lichen planes and dysplastic changes. Oral cancer can be seen in the soft palate; lips; tongue anterior two third and rarely in the minor salivary glands in the oral cavity.[11,12]

Throat cancer

Although this term is not specific and it includes different part of the head and neck but usually includes naso pharynx: oro pharynx and hypo pharynx areas.[13]

Oro pharyngeal cancer

The incidence of cancer in oropharynx can affected commonly the tonsils, the posterior third of the tongue and sometimes the retro molar area The incidence of squamous **cell** carcinoma is 0.8 per100, 000 population per annum with male to females ratio 2.5: 1.0. Since the oropharynx is rich in lymphatic drainage metastases to lymph nodes can occur and this usually in the jugulodigastric node (level 2).[14]

As with others squamous cell carcinomas of the upper aero digestive tract tabacco and alcohol play a major role in their causation and showed mainly association with human papilloma virus infection.[15]

Laryngeal cancer is one of the most common head and neck cancer in United states and it is four times in males than females and it has high rate in black Africans. The rate of deaths and new cases decrease in the last two years due to decease in smoking hobbit.[16]

Clinically the laryngeal cancer divided into three group according to anatomical areas of the larynx into supra glottis; glottis and sub glottis. The glottis carcinoma accounts about 49% while supra glottis account about 16 %.[17]

Nasopharyngeal carcinoma (NPC) arises from the epithelium that covers the nasopharyngeal mucosa. Squamous cell carcinoma account for 97% of malignant neoplasm of the naso- pharynx. According to WHO, NPC is classified pathologically into keratinized squamous cell carcinoma types 1, non keratinized carcinoma type 2, and un deferinatiaed types 3.Only three reports had previously described the pathology of the NPC in Sudan.[18]

Nasopharyngeal carcinoma (NPC) forms around 6%of all cancers in Sudan Cancer Registry (SCR) records and 7%of all Radio isotope scenter in Khartoum, although Sudan categorized as intermediate risk country.[19]

Hypo pharyngeal carcinoma the hypoharynx is divided anatomically into three sub sites the pyriforms fosse, the post cricoids region and the posterior pharyngeal wall. malignant tumors of the hypo pharynx are almost exclusively squamous cell carcinomas.[20]

Neck cancer

Some patients of head and neck cancer showed neck lump as first symptoms of head and neck cancer as distant metastasis of primary head and neck cancer of the neck like lymphoma and sarcoma may started in the neck.[21]

Nose &sinuses

The cancer of the nose and Paranasal sinuses usually called Sino nasal cancer. Sino nasal commonly seen in the maxillary, ethmoidal sinuses rarely in the frontal and sphenoidal sinuses.[22]

Salivary glands

Malignant salivary gland are. UN common it accounts about 3% of all neoplasm most of it are benign.[23] Benign tumors of the salivary glands commonly seen in the parotid glands. The malignant tumors varies according to the site affected and this include muco epidermoid, acinic cell carcinoma, adenoid cystic carcinoma Adeno carcinoma, carcinoma in polymorphic adenoma and rarely squamous cell carcinoma.[24]

Assessment of patients with suspected head and neck cancer depends on meticulous history including the demographic data, history of the present illness which give some clue about the suspected area to be affected.

The past history should include family of malignancy. Smoking drinking habits and previous history of radiotherapy especially in the head and neck region.

Many different symptoms can occur in head and cancer and they are differ according to the site been involved and time when the patient comes for diagnosis.[25]

The common symptoms of head and cancers includes oral ulcers and swelling more than 3\52, persistent changes of voice more than one month, difficulty in breathing, dysphagia more than 3\52,unilateral nasal obstruction with bloody stained nasal discharge, nasal bleeding, impaired hearing, unexplained tooth mobility, neck swelling, cranial nerve neuropathies, proptosis and pain.[26]

Many others vague symptoms may be noticed which includes general ill health, fatigability, and loss of appetite, headache and symptoms and signs of anemia. Many investigations should done to any patients with suspected to have head and neck cancers and should be directed to most properly affected site. This includes laboratory, radiological, endoscopic and sometimes you take biopsy for histopathology The radiological assessment of head and cancer includes plain x rays, Ba swallow, ultra sound, CT scan, MRI, PET which was the most reliable imaging procedure in detection of the primary and recurrent carcinoma in head and neck

region.[27] radio nucleotide study and sometimes vascular studies.

Endoscopic assessment can be done as office procedures for examination and for biopsy purposes sometimes done in the theatre under general anesthesia[28]

The treatment of head and neck cancers depend on a numbers of factors which include the site of the tumors, the stage of tumors, time of presentation and others factors related to the age and the general conditions of the patients. Many modalities of treatments are used to different types of head and neck cancers which includes surgery, radiations therapy, chemotherapy and combinations[29,30]

Objectives

1. To study the common site of head and neck cancers involved in the area of the study.
2. To study the common Histopathological types.
3. To study the possible risk factors.

MATERIAL AND METHODS

This prospective hospital based study conducted in ENT department in Mac Nimer university hospital 2011-2016. It included all patients diagnosed with head and neck cancers. Well constructed questionnaire was done included personnel data, examinations, investigations and the results of histopathology when biopsy had been taken

RESULTS

Seventy one patients were involved in this study between 2011-2016. Most of the cases was elderly males and middle age females, Most of the tumors are located in the hypo pharyngeal part of the pharynx and the oral cavity and more than 90 % were squamous cell carcinoma. Rare types of malignancy were noticed in the study group. Most of the patients come late for diagnosis at stage three and four.

No clear risk factors was noticed apart from snuff use in elderly males and Plummer Vinson Syndrome in young females. The study showed 3 patients(4,2%) had history of previous radiotherapy and one patient(1.4%) had family history of head and neck cancer.

Table 1: showed sex distributions of patients in the study group.

Sex	No of patients	%
Males	39	54.93%
Females	32	45.07%
Total	71	100%

Table 2: showed age distribution of the patients involved in the study group.

Age groups(years)	No, of patients	%
20==30	4	5.63%
30-40	11	15.99%
40-50	19	26.76%
50-60	18	25.36%
More than 60	19	26.76%
Total	71	100%

Table 3: showed the sites of the tumors in the study groups.

Site of the tumors	No. of the patients	%
Oral cavity and lips	5	7.04
Tongue	4	5.63
Pharynx:		
Oropharynx (tonsils retro molar area)	9	12.67
hypo pharynx +upper oesophague	14	19.71
Naso Pharynx	10	14.08
Nose +paranasal sinuses	7	9.85
Salivary glands	7	9.85
Lymph nodes	4	5.63
Ear	1	1.4
Secondries	4	5.63
Larynx	6	8.45
Total	71	100

Table (4): Histopathological pattern of head and neck cancer in the study group.

Item	Number of patients	Percent %
Squamous cell carcinoma	61	
Well differentiated	16	
Moderately differentiated	12	85.91%
Poorly differentiated	25	
Anaplastic carcinoma	4	

Verrcous carcinoma **Secondries**	1 1	
lymphoma	3	4.22%
Adenoid cystic ca	1	1.41%
Mucoepidermoid ca	2	2.82%
Acinic cell ca	2	2.82%
Others	2	2.82%
Total	71	100%

Figure (1) Retro molar Carcinoma with lymph node Secondries.

Figure (2) Ca Maxilla left side.

Figure (3) Adenoid Cystic carcinoma of minor salivary gland in soft palate.

Figure (4) Carcinoma Lower Lip.

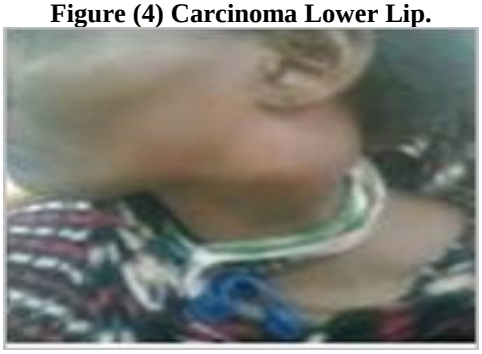

Figure (5) Carcinoma naso pharynx with lymphnodes Secondries.

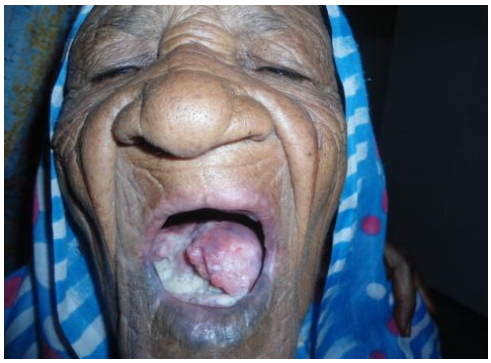

Figure (6) Carcinoma Tongue.

DISCUSSION

This study conducted in Mack Nemer university hospital to high light about the head and neck cancer in Sudanese patients in the north of Sudan, To study the common site involved; the Histopathological types and to study the possible risk factors. There is wide range in the age of the patients from early twentieth to elderly patients and more than 50% of the patients their age is more than 50 years and this goes with many studies where head and cancer is predominant in elderly specially in male patients also we noticed that the age of the patients is younger than international studies.[1,2,3]

The study show no significance difference in the sex of the patients this may be due to that many females diagnosed as hypo pharyngeal carcinoma and upper aero digestive tract complicated with Plummer Vinson Syndrome despite we exclude esophageal carcinoma as part of head and neck cancer (and this goes with many studies in Sudan.[3]

The main sites involved are the oral. Oro pharynx[11.12] and the hypo pharynx and differs from retrospective study conducted in central Sudan where nasophyrnx is predominant.[1,18.19]

As with most international and local studies the main Histopathological type is squamous cell carcinoma with different differentiation with late presentations.[9.15.17]

No clear risk factors in this study group but we noticed there may be clear association with snuff use in males with oral and oro pharyngeal cancers and Plummer Vinson in females.

CONCLUSION

Head and neck cancer are common cancer seen the area of study especially in the hypo pharynx and upper aero digestive tract.

Despite that the patients comes late for diagnosis the age affected usually lower than international affected age group.

Snuff use may play a major risk factors in developing head and neck cancer especially in males' sex.

Recommendations

Devolopment of a committee for all subs -spatiality involved in the diagnosis of patients with head and neck cancer. (Team work).

Further studies in the risk factors especially on oncogenes of head and neck cancers.

Health educations for risk factors specially smoking. snuff use and alcohol consumption.

Development t of rehabilitation center including psychological support specially after surgery, radiotherapy or development of metastasis.

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