

Challenges in the Management of Oral Cancers: An Audit of Cases Treated in a Teaching Hospital North-West Nigeria

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ABSTRACT

Background: Oral cancer is a disease in which malignant cells form in the mouth. It is a subset of head and neck cancer. The effective management of these cancers has been a challenge to the clinician due to high mortality rate that result from these tumours. Despite several approaches to its treatments, the prognosis has been poor.

Objectives: To evaluate various challenges encountered in the management of oral cancers in our Centre

Materials and Methods: This study was retrospective in design. We audited patients with oral cavity malignancies that presented in the Maxillofacial Unit of Barau Dikko Teaching Hospital, Kaduna, from January, 2009 to July 2022. Information was collected from patients' record which includes: age, gender, site of occurrence, duration of the tumour, treatment giving, recurrence rate, challenges in the management and prognosis.

Results: One hundred and sixty-three patients were included in the study. The mean age was 37.64 years and males were more affected than females in the ratio of 2.32: 1.51. The mandible was the site most affected (n=52, 31.90%), then maxillae (n=40, 24.54%), tongue (n=28, 17.19%), cheek (n=15, 9.20%), Gingivae (n=10, 6.14%), floor of the mouth (n=8, 4.90%), lip (n=7, 4.29%) and least affected oropharynx (n=3, 1.84%). Late presentation in the hospital, ignorance of the nature of the tumour by the patient, cultural belief that cancer cannot be treated, high cost of treatments, poverty, and tumour recurrence were our challenges.

Conclusion: The challenges in the management of oral cancers can be mitigated by creating awareness among the people on how to detect early onset of the cancer and various preventive measures such as avoidance of tobacco and alcohol use. There is need for urgent establishment of more cancer treatment centers in the North western part of Nigeria where access to treatment at an affordable fee will be possible. The accurate mortality rate of these oral cancers cannot be determined in this study because many patients that were treated refused to come for review appointments.

Keywords: challenges, management, oral cancer, malignant, tumour.

INTRODUCTION

Oral squamous cell carcinomas (OSCC), arises from surface epithelium, and constitute more than 90% of all oral cancers (Johnson et al., 2011). The term oral cancer has applied is synonymous of OSCC together with squamous cell carcinoma (SCC) from pharynx, larynx, nasal cavity, and paranasal sinuses (Rogers et al., 2007). They all belong to the group of head and neck cancers. Advancement in knowledge of specific risk factors, different genetic mutations, epigenetic changes, distinct biological and clinical behaviours of these tumours has necessitated separating them into different groups (Johnson et al., 2011). However, oral cancers affect structures in the oral cavity, which include: lips, tongue, mandible, palate, maxillae, gingiva, oropharynx and cheek.

Oral cancer is one of the most prevalent cancers worldwide, with a global incidence of more than 350,000 new cases and 177,000 deaths every year, though with considerable geographic and environmental risk factor differences (Adekeye et al., 1985; Rogers et al., 2007). The incidence of OSCC has been declining in some areas of the world, but the incidence has risen in some countries (mainly low-income countries) among females (Adeyemi et al., 2011).

Oral cancer usually occurs in people over the age of 40 years and their risk increases with age. It affects both men and women, but commoner in men. Moreover, incidence in women may increase with smoking habits (Adeyemi et al., 2011). Racially, black Americans are at higher risk for oral and throat cancer than whites.⁶ This increase in risk seems to be due to the influence of environmental factors, because the role of genetic factors in its occurrence has not been determined (Otoh et al., 2004). Patients who smoke or chew a lot of tobacco and people who drink a lot of alcohol are at higher risk for oral cancer (Adeyemi et al., 2011; Lawal et al., 2013).

Exposure to ultra-violet rays in people who stay in the sun for long periods of time is more likely to develop lip cancer. Other factors such as immunosuppression (such as AIDS and organ transplantation), viral papillomavirus infection (especially type 16, which accounts for 63% of new cases of oral cancer), Plummer–Vinson syndrome, and vitamin A deficiency also increase the risk of oral and pharyngeal cancer (Arotiba et al. 1999; Arotiba et al 2006). The prevalence of HPV-related oral cancers has been documented (Speicher et al., 2016).

However, there has been an alarming increase in the incidence of OSCC in the younger age group ≤45 years old (Adeyemi et al., 2011; Lawal et al.,

2013). The incidence among younger cancer patients, who, in most of the cases, lack those traditional risk factors have not been adequately explained (Lawal et al., 2013). Moreover, some specific issues regarding OSCC in the younger age group need to be addressed, including risk factors, patterns of inheritance of predisposing genetic alterations, clinical behaviour, and prognosis.

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Tumours may appear in various forms of ulcers, prominent fungal masses, papillary, wart-like, white and red plaques, or a combination of both. Many primary cancers of the mouth are asymptomatic, while advanced lesions are often ulcerative and have prominent hard margins (Arotiba et al., 1999). Pain is often absent in the later stages of the diseases (Arotiba et al., 1999). Potentially malignant oral epithelial lesions are a group of oral diseases that may exist before the onset of oral squamous cell carcinoma and include a group of clinically oral mucosal lesions such as leukoplakia, erythroplakia, submucosal fibrosis, and lichen planus. However, most of these do not progress to cancer (Arotiba et al., 1999).

There are limited literatures on the challenges of oral cancer management in Northern Nigeria. Therefore, this study was done to identify the challenges we encountered in the management of oral cancer patients treated in our Centre, so that the policy makers can look into possibilities of increasing awareness among the populace.

MATERIALS AND METHODS

This study was retrospective in design. We audited patients with oral cavity malignancies that presented in the Maxillofacial Unit of Barau Dikko Teaching Hospital, Kaduna, from January, 2009 to July 2022. Information was collected from patients' record which includes: age, gender, site of occurrence, duration of the tumour, treatment giving, recurrence rate, challenges in the management and prognosis.

RESULTS

One hundred and sixty-three patients were included in the study. The mean age was 37.64 years and males were more affected than females in the ratio of 2.3: 1.5. The mandible was the site most affected (n=52, 31.90%), then maxillae (n=40, 24.54%), tongue (n=28, 17.19%), cheek (n=15, 9.20%), Gingivae (n=10, 6.14%), floor of the mouth

(n=8, 4.90%), lip (n=7, 4.29%) and least affected oropharynx (n=3, 1.84%). Late presentation in the hospital, cultural belief that cancer cannot be

treated, high cost of treatments, poverty, ignorance, and tumour recurrence were our challenges.

TABLE 1: AGE AND SEX DISRIBUTION OF STUDY POPULATION

Age (years)	Sex Distribution		Total Population	Percentage
	Male	Female		
0 -10	2	1	3	1.8
11-20	4	2	6	3.7
21-30	7	3	10	6.1
31-40	10	7	17	10.4
41-50	15	13	28	17.2
51-60	17	15	32	19.2
61-70	15	13	28	17.2
71- 80	21	18	39	24.0
Total	91	72	163	100.0

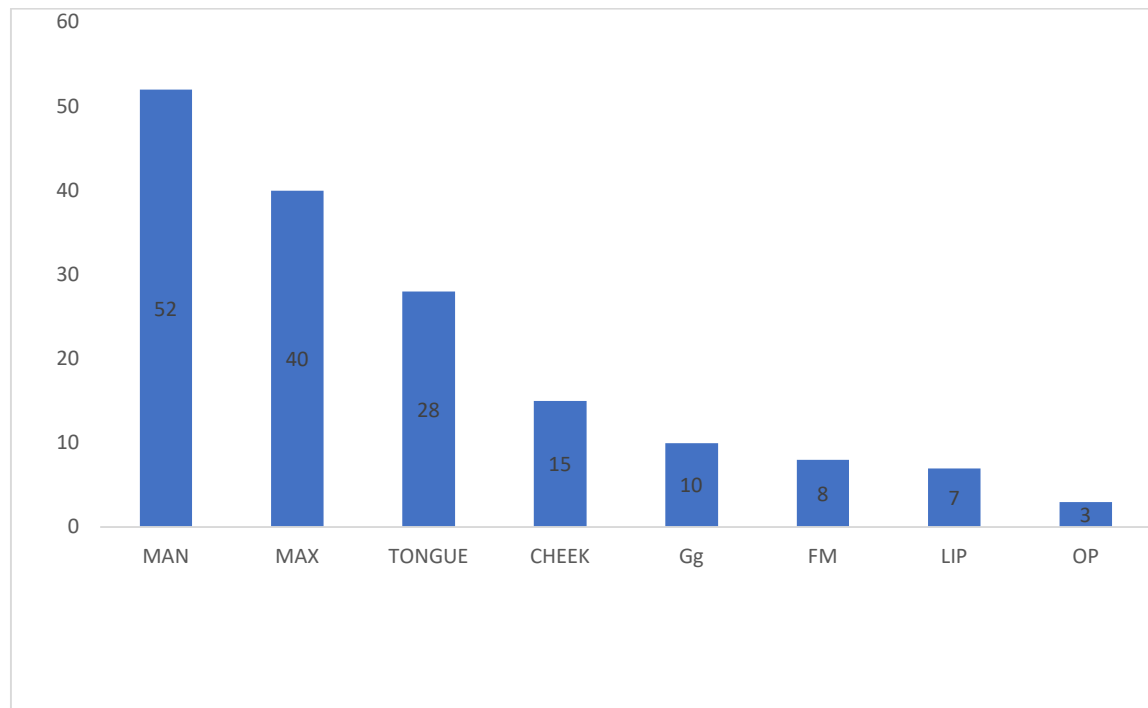


FIGURE 1: SITE OF OCCURRENCE OF ORAL CANCER

Key: Mandible – MAN, Maxilla-Antrum (maxillary antrum) –MAX, Cheek - Buccal sulcus, Gingiva -Gg, FM-Floor of Mouth, Lower lip commissure- Lip, Oropharynx (OP) - Palato -pharyngeal pillar

DISCUSSION

Cancers have been known to be a life-threatening condition all over the world and recognized as one

of the most significant reasons of death around the world (Adeyemi et al., 2011). This study supported this claim, as many of our patients died from these

oral cancers. One of the most common types of cancer is head and neck cancer (Lawal et al., 2013). Head and neck cancers are the sixth most common cancer worldwide and the most common cancer in developing countries (Otoho et al., 2004; Arotiba et al., 2006). Oral cancers include tumours of the lips, tongue, cheeks, gum, floor of the mouth, soft and hard palate, sinuses, tonsils, salivary glands and throat, that can be fatal if left untreated (Arotiba et al., 2006). This study showed oral cancers which affected the mandible, maxillae, tongue, gingivae, cheek, lip and oropharynx cancers. Several authors (Okoh & Okoh, 2017; Olusanya et al., 2018; Jaihoomi & Jafari, 2021). have reported that oral cancers are commoner in males than females; this study supported these reports, as more males were affected than females at the ratio of 2.32 to 1.51. Other types of oral cancers, such as malignancies of the salivary glands, sarcomas, odontogenic malignancies, melanoma, and lymphoma, make up less than 10% of oral cancers and approximately 1% of metastatic cancers are from the lungs, breast, prostate and kidney (Okoh & Okoh, 2017; Olusanya et al., 2018; Jaihoomi & Jafari, 2021). Squamous cell carcinoma can have various levels of differentiation and often give rise to node metastases. Lymphatic spreading into the neck is directly related to the TNM stage as well as the depth of invasion and tumour thickness (Dumbili, 2013). This study showed distant metastases to the lungs in eight patients, cervical node involvement was noticed in fifteen patients (Dumbili et al 2013). Furthermore, inside the mouth, the high-risk sites for cancer are the abdominal surface, the posterior sides of the tongue, the floor of the mouth, and the soft palate (Okoh & Okoh, 2018). Tongue cancer is the most common malignancy in the mouth (Dumbili et al 2013). Tongue lesions are often aggressive (Adebola et al., 2013; Lawoyin et al., 2013). This study showed that cancer occurred most in the mandible, followed by the maxillae, then tongue, and least in oropharynx. Tongue cancer were the most difficult to operate as functional deficiencies such as speech and swallowing etc were evident post-surgery. The second most common intraoral site for cancerous changes is the floor of the mouth (Lawoyin et al., 2013). Tumours in this area occur in older men, especially in smokers and alcoholics. Involvement of the cheeks and gums is also common, especially in areas where there are certain habits such as chewing tobacco. This study reported affectation of the cheek and gingivae. However, there are several challenges encountered in the management of these tumours, our study examined these challenges which include

late presentation to the appropriate hospitals where these cancers are treated. This can be attributed to inadequate treatment Centres, and ignorance on the part of the patients on the urgency of seeking treatments on time. This study also noticed that painless tumours were often neglected than painful tumours.

Moreover, there exist a cultural belief among patients and their relatives in this Northern region that cancer cannot be treated, therefore, few patients bluntly refused any form of treatment, some accept medications only but not surgery. This greatly had negative impact on our success in cancer treatments. Religious belief such as refusal to accept blood transfusion hindered surgery for three of our patients. Financial challenges made many victims to retire to fate as the cost of surgery, chemotherapy and radiotherapy are enormous.

Furthermore, the location of the cancer has greatly reduced our intervention especially when the posterior part of the tongue and oropharynx were involved, patients at presentation often already had difficulty in swallowing and speech, and surgery could not be done except to be treated on adjuvant chemotherapy and radiotherapy, which often brings the patient down and subsequently death followed.

Also, tumour reoccurrence after surgery, chemotherapy and radiotherapy is of a great concern, many of our patients had the tumour growing back at previous sites or contiguous structures few months after completing a course of treatments. Usually at that stage the patients resulted to fate, having completed all the treatments. Distant metastasis of the tumour has greatly reduced the prognosis of the treatments. The tumour having spread to the lungs revealed a consolidated lung tissue and spread to the kidney could precipitate renal failure. This had limited treatment modalities.

Furthermore, patients complying to appointment especially review appointment have not been encouraging, many came back two years after the first surgery with tumour recurrence. Habits of unrestricted smoking and excessive use of alcohol have contributed negatively to our goal of treating the patients.

However, there are efforts that must be made to reduce the incidence of oral cancers. These include: public health awareness on the oral health hazards of excessive smoking, use of alcohol, and need for early presentation in the hospital. Also, more treatment Centres need to be created, and subsidized cancer treatment should be made available to the victims.

Prevention of this devastating disease will require fundamental changes in the socio-economic situation, as well as measures to reduce demand, production, marketing and use of tobacco and alcohol products. A healthy diet, oral hygiene and awareness of the signs and symptoms of the disease are important. Success depends on the political will, intersectoral actions, and culturally sensitive public health messages that are disseminated through educational campaigns and mass media initiatives (Lawal et al., 2013).

Primary prevention of oral cancer therefore consists in education of people on the lifestyle changes such as non-smoking and alcohol consumption, and protection from sunlight (Otoh et al 2004). Despite the increasing awareness of oral cancer in the general population, in the last 40 years the percentage of patients seeking medical attention with advanced disease has not changed significantly (Lawoyin et al., 2003). This study noticed that many of our patients had been receiving treatments from traditional healers, prayer houses and other alternative practitioners before coming to the hospital. They came for treatment after all those efforts did not yield any improvement.

The goal of secondary prevention is early detection of cancer in the oral cavity in all accessible places. The chance of curing oral cancers increases if they are diagnosed and treated early. Treatment of early-stage oral cancer increases patient survival. Unfortunately, most oral cancers are diagnosed at a more advanced stage and when they become symptomatic, which greatly reduces a person's chances of recovery, so early detection of precancerous lesions or early-stage oral cancer is very valuable. Diagnosis of suspected cases of oral cancer is made by assessing the patient's demographic characteristics and assessing specific habits, especially tobacco and alcohol consumption and other irritating factors that may play a role in causing oral cancer.

CONCLUSION

The challenges in the management of oral cancers can be mitigated by creating awareness among the people on how to detect early onset of the cancer and various preventive measures such as avoidance of tobacco and alcohol use.

RECOMMENDATIONS

There is need for urgent provisions for the treatments of oral cancer to reduce the morbidity and mortality associated with the disease and thereby saving more lives from deaths due to oral cancers.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

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