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Oral squamous cell carcinoma: a review of 246 Nigerian cases

***J.T. Arotiba, *A.E. Obiechina *O.A. Fasola, **O.I. Fawole, and *H.A. Ajagbe**
**Department of Oral and Maxillofacial Surgery and **Department of Preventive & Social Medicine, College of Medicine, University College Hospital, P.M.B. 5116, Ibadan, Nigeria.*

Summary
A review of 246 Nigerians with oral squamous cell carcinoma seen at the University College Hospital, Ibadan, over a 20-year (1976-1995) period was carried out. A prevalence rate of 1.2% was found with a male to female ratio of 1.5:1. Their ages ranged from 20 to 88 years with mean and median ages of 53.7 and 55.5 years respectively. The most common site was the palate while the least common was the buccal mucosa. Most patients presented late for treatment with advanced disease, but women tended to report earlier than men. Out of 125 patients who had definitive treatment, only 33(26%) had adequate follow-up records and recurrence was noted in 13 (39%) The prevalence of oral squamous cell carcinoma is significant in this environment but patient awareness is still low. There is a need to step up awareness campaign programmes, provide more centres for cancer treatment and introduce mass screening programmes.

Keywords: *Squamous, carcinoma; oral; Nigerians*

Résumé
Une revu de 246 Nigerians souffrant du carcinome des cellules epitheliales de la cavite buccale obtenus au centre hospitalier Universitaire d'Ibadan pendant une periode de 20 ans (1976-1995) avait ete faite. Le taux de prevalence de 1.2% avait ete trouve avec une une proportion de male par rapport sux femelles de 1.5%. Leurs ages variant entre 20 et 88 ans avec une moyenne d'age de 53.7 et milieu d'age de 55.5 ans. La region la plus affectee etait le palais alors que la moins affectes etait la muqueuse buccale. La ma jourite de patients arrivaitent en retard pour le traitement, et la une maladie dans un etat tres avance mais les femmes arrivaient plus tot que les hommes. Sur les 125 patients qui ont eu un traitement definitie 33 (26%) ont eu un survit adequat et la maladie est encore survenue chez 13 (39%). La frequence du carcinome des cellules epitheliales est importante dans cet environement, mais les patients ne sont pas assez au courrant, ceci etant, il ya un besoin de lancer les campagnes ou les programmes d'information ainsi que la creation des centres de traitement de cancer. De plus il faudrait introduire des programmes de depistage de cancer.

Introduction

The incidence of oral malignant neoplasm is known to exhibit marked geographic variations. When compared with malignant neoplasms of the other parts of the body, oral malignancies constitute about 2% - 4% in the United States of America [1], 2% in Britain [2], 3% in Austrialia [3] and between 12% and 40% in India [4,5]. Early studies from Africa [6,7] suggest a low prevalence of oral malignant neoplasms when Burkitts lymphoma is excluded. Edington and Sheiham [8] documented only 30 cases of oral squamous cell carcinoma from the University College Hospital (UCH), Ibadan, over a 6-year period. Despite the relatively low incidence, which could be due to inadequate records, results from available studies [9,10,11,12] show that squamous cell carcinoma is frequently encountered and accounts for 40-84% of oral carcinoma in Nigeria.

The present study updates information relating to the prevalence of oral squamous cell carcinoma in Nigerians by undertaking a review of patients seen at the University College Hospital, Ibadan, over a twenty-year period. The results are compared with previous studies in the same community, and from other countries.

Correspondence: Dr. J.T. Arotiba, Department of Oral and Maxillofacial Surgery, University College Hospital, Ibadan, Nigeria.

Patients and methods

This is a retrospective study of 246 patients with histologically confirmed oral squamous cell carcinoma from the records of the Department of Oral Pathology and the Cancer Registry, University College Hospital, Ibadan, between 1976 and 1995.

Clinical files, histological reports and radiographs, where available, were retrieved. Necessary information such as age, sex and size of tumour, presenting symptoms, histopathologic differentiation, treatment and follow-up results were extracted. Site incidence was coded using the International Classification of Disease for oncology (ICD) [13]. Included in this series were lesions on the lip (ICD 140), tongue (ICD 141). gum (ICD 143), floor of mouth (ICD 144) and other intra-oral sites such as palate, maxilla, mandible and buccal mucosa (ICD 145). Carcinoma of the major salivary glands (ICD 142), antrum (ICD 160), nasopharynx, (ICD 147) and tonsils (ICD 146) were excluded. A tumour involving more than one site was counted as originating from the site with the greatest tumour mass, while tumours involving the maxilla, palate and antrum, but had early nasal, facial or ophthalmic symptoms, were regarded as antral tumours and therefore excluded.

Clinical staging was done retrospectively using the American Joint Committee for Cancer (A.J.C.C.) Staging and End Result Reporting System [14] where enough clinical information was documented.

Results

Prevalence

A total of 19,838 malignant neoplasms occurring in all parts of the body were recorded over the 20-year period. Two hundred and forty- six (1.2%) were oral squamous cell carcinoma. The number of patients seen with oral malignant tumours during this period was 575. Squamous cell carcinoma accounted for 43% of all oral malignancies.

Age and sex

The age range of patients was from 20 to 88 years, with a mean of 53.7 ± 1.0 years (SD = 14.9 years) and a median of 55.5 years. The peak age-group was the 6th decade, with 28.9% of the patients while majority (69.5%) were in the 5th - 7th decades of life. There were 149 males and 97 females (M.F = 1.5:1). In males, the ages ranged from 20 to 88 years and the mean was 53.2 ± 1.2 years; SD = 14 years (median = 55 years) and in females the ages ranged from 20 to 85 years, with a mean of 55.3 ± 1.6 years; SD = 15.0 (median = 58 years (Table 1).

Table 1: Age distribution of 246 Nigerian patients with oral squamous cell carcinoma

Age (yrs)	Male (%)	Female (%)	Both Sexes (%)
11-20	1(0.7)	1(1.0)	2(0.8)
21-30	9(6.0)	5(5.2)	14(5.7)
31-40	18(12.1)	13(13.4)	31(12.6)
41-50	34(22.8)	19(19.6)	53(21.5)
51-60	48(32.2)	23(23.7)	71(28.9)
61-70	25(16.8)	22(22.8)	47(19.1)
71-80	9(6.0)	8(8.2)	17(6.9)
81-90	3(2.0)	2(2.1)	5(2.0)
unknown	2(1.3)	4(4.1)	6(2.4)
Total (%)	149(99.9*)	97(100.1*)	246(99.9*)

* *Total did not add to 100 due to approximations.*

Duration of symptoms before presentation ranged from 4 weeks to 7 years in males (mean = 11.1 ± 1 month; SD = 12.7; median = 6 months) and 2 weeks to 6 years in females (mean = 7.1 ± 1 .5 months; SD = 11.2 months; median = 4.5 months).

Associated habits

Information on risk factors were available in 77 patients. Thirty-eight (49%) patients had positive history of predisposing habits such as the use of tobacco and alcohol. Five (63%) out of the 8 patients with snuff dipping habit had their carcinoma located on the tongue.

Clinical staging and histological differentiation

One hundred and sixty-eight patients (102 males and 66 females) had adequate information on retrospective staging using TNM system (Table 4).

Table 2: Site distribution of 246 Nigerians cases or oral squamous cell carcinoma

Sex	Lip	Tongue	Gum	Floor of mouth	Other oral sites: Palate	Maxilla	Mandible	Buccal mucosa	Not stated
Male	10	35	13	11	33	13	22	4	8
Female	6	13	3	5	24	10	21	9	6
Both sexs	16	48	16	16	57	23	43	13	14
Frequency (%)	6.5	19.5	6.5	6.5	23.2	9.3	17.5	5.3	5.7

Site

The site distribution of the lesions showed the palate, the tongue and the mandibular alveolus as the most common sites while the floor of the mouth the gum and the buccal mucosa were the least common sites (Table 2).

Presenting symptoms and duration

Of 99 patients with records of main presenting symptoms, painful swelling/growth was 31%, painless swelling 25%; and painful ulceration 18%. Other less common symptoms were toothache with or without non-healing alveolar tooth sockets, anaesthesia of lower lip, mobility of teeth and white or red mucosal patches. Some who presented late had weight loss, trismus, dysphagia and bleeding from the lesions.

Table 3: Main presenting symptoms of oral squamous cell carcinoma in Nigerian patients

Symptoms	Number of patients (%)
Painful swelling or growth	61 (31)
Painless swelling or growth	50 (25)
Painful or infected ulceration	29 (15)
Painless ulcerations	35 (18)
Toothache and/or non-healing alveolar sockets	20 (10)
White/red patches	4 (2)
TOTAL	199

Table 4: Oral squamous cell carcinoma in Nigerians: Tumour staging at presentation (TNM)

Staging	Number of patients: Male (5)	Female (%)	Both (%)
Stage I	-	-	0 (0%)
Stage II	4 (4)	6 (9)	10 (6)
Stage III	36 (35)	32 (49)	68 (40)
Stage IV	62 (61)	28 (42)	90 (54)
Total	102 (100)	66 (100)	168 (100)

None of the patients presented with a stage I tumour. Majority of the patients (94%) presented with stages III and IV tumours with a higher proportion of men (61%) presenting at stage IV than women (42%) while the reverse was the case in stage II and III tumours.Figure 1 summarises the histological differentiation of the tumours in 126 (51%) patients. A higher proportion (49%) of the tumours were ungraded, while in those graded, well differentiated tumours (27%) predominated.

Treatment and follow-up

Treatment records of 125 (50.4%) patients were available. Of these, 18 (14%) were treated by surgery, 32 (26%) by radiotherapy, 35 (28%) by surgery and radiotherapy, 14 (11%) by radiotherapy and chemotherapy and 4 (3%) by the three modalities. The remaining 22 (17.6%) patients were given palliative treatment which included chemotherapy (6 patients), radiotherapy (12 patients) and chemotherapy with radiotherapy (4 patients). The indications for palliation included distant metastases, old age, extensive tumour involving several regions or structures. Of the remaining 121 (49.6%) patients with no treatment records, twenty-one patient declined orthodox treatment after biopsy results were made known to them.

Post-treatment records were scanty as patients were quickly lost to follow-up. However, follow-up periods ranged from 2 weeks to 5 years in 33 patients (18 men and 15 women) with available records. Five (15%) patients who were given palliative treatment died a few months later. Recurrences were detected in 13 (39%) out of the patients treated with curative intent within periods ranging from 4 months to 3 years.

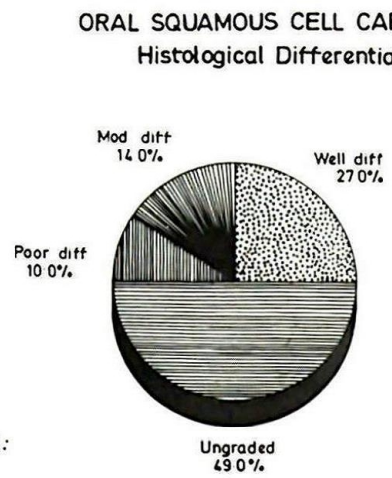

Fig.1:

Discussion

The prevalence rate of 1.2% for oral squamous cell carcinoma observed in this study is higher than 0.85% [15] and 0.7% [8] reported in two previous studies from these institutions. Also the relative frequency (2.9%) obtained for oral cancer is higher than the 2.2% reported for Nigeria using data from the Ibadan Cancer Registry [16,17]. The apparent increase may be due to increased awareness of cancers by patients, increased use of tobacco or improved life expectancy among Nigerians who now live to "cancer age". This assumption is further buttressed by the fact that the mean age of oral carcinoma in this study (53.7 years) is higher than previous studies in Ibadan [9], Kaduna [10] and Lagos [11] where the mean ages were 48, 45 and 49 years, respectively.

The mean age obtained in this study is however lower than that reported in western countries and Asia. For example, the mean age was 60 years in a study from Australia [18], 57.6 years from India [5], 63.65 years from the United Kingdom [19], 62.4 and 62.7 year, respectively from Indiana [20] and Connecticut [1], U.S.A.

The sex incidence of oral squamous cell carcinoma varies within different regions of the same country and from one country to the other, [10,16]. However, men are usually more often affected than women despite the reported increase in female incidence in Britain and Denmark [2,21,22]. The male:female ratio observed in this present study is similar to 1.7:1, 1.5:1, 1.3:1 and 1.5.1 recorded in previous studies from Ibadan [9], Lagos[11], England [19] and the United States [23], respectively, but differs from 2.4:1 reported from northern Nigeria [10]. In contrast, Van Wyk et al. [24] reported a reversed male to female ratio of 1:1.6 in South Africa Indians. The higher female prevalence was linked to the habit of areca nut-chewing which is more common among women in South Africa Indian.

The site incidence shows the palate followed by the tongue as the most commonly affected. These two sites have consistently had the highest incidence in this environment [9,11] in contrast with Western countries where the floor of the mouth, the tongue and sometimes the lips are the most common sites [22,23,25]. The reason for the high palatal incidence in this community is unclear since reverse smoking, a habit that has been linked to a high prevalence of palatal carcinoma in Indians [26], is not practised here. The low site incidence for buccal mucosa is in agreement with some previous studies [9,11] from Nigeria but contrasts with findings from South East Asia and South African Indians [4,5,24] where it accounts for about half of the oral carcinoma cases. The habit of chewing betel quids or areca nuts with tobacco has been implicated in the high incidence of buccal mucosa carcinoma in India [5,24].

It is significant to note that all the patients with snuff-dipping habits had their lesions located on the tongue (63.5%) or the palate (37.5%). These areas of the mouth are usually in prolonged direct contact with tobacco in those who practise this habit and might partly contribute to the high incidence of palatal and tongue carcinoma [9].

This study shows that women tend to present earlier for treatment than men since the mean duration of symptoms before presentation was shorter in females (7.1 months) than males (11.1 months). In addition, a higher proportion of the males (53%) presented with stages IV lesions while in the females a higher proportion (57%) presented with stage III and II lesions (Table 4). Pinholt et al. [22] reported a similar finding in Denmark where 11% of the patients delayed for 1-3 years before reporting for treatment and majority (8%) of them were men while few (3%) were women. Most oral carcinomas do not cause symptoms at the early stages and remain painless until infection or ulceration sets in. This is responsible for patient delay in seeking treatment. The predominance of painful swellings or ulcerations in this study shows that our patients do not come for routine check up unless a disability or discomfort ensues. This might be due to lack of oral health awareness or poor financial resources.

Treatment results could not be adequately assessed due to the limited follow-up records. For this reason accurate squamous cell carcinoma death rate could not be calculated. Probable reasons for poor patient compliance with review appointments could be due to the following: ignorance, loss of faith in orthodox treatment, lack of financial resources for transportation and search for alternative treatment by religious or traditional healers. Poor communication systems and lack of traceable living or home addresses create a great handicap for the clinicians effort to contact these patients. Refusal of treatment, which was encountered in 21 (8.5%) patients, has been noted as a common feature in developing countries [28]. This, coupled with poor follow-up compliance, militate against an adequate assessment of treatment results. Educating and motivating the patients on the need for compliance with review appointments and long-term monitoring may improve the situation. A good rapport between the clinician and the oral cancer patients is necessary to build up trust and confidence.

The findings that the prevalence of oral carcinoma is increasing in the population and, in addition, that most patients will present with advanced disease require urgent measures by the government and other health planners and providers. There is the need to step up the ampaign for awareness on oral cancers, provide more centres for cancer treatment, encourage mass screening programmes and provide a social and or health insurance scheme to reduce the financial burden of the high cost of treatment. In addition, comprehensive documentation of patient to patient records and good record keeping are a necessity.

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