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Intra-oral squamous cell carcinoma in Nigerians under 40 years of age: a clinicopathological review of eight cases

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Summary

Intra-oral squamous cell carcinoma (SCC) is a disease commonly seen in patients aged 50 and above. A recent report on intra-oral SCC in the Nigerian population placed the mean age of occurrence for the disease at 50.7 years for male and 49.6 years for females. Age is recognized to be an important factor in the onset and outcome of diseases like cancer. The focus of this study was to conduct a clinicopathological review on the incidence, pattern of presentation, management and outcome of the disease in patients aged 40 years and below seen at the University College Hospital Ibadan, between 1980-1995. During the period under review the total number of cases of SCC was 104, out of which 8 (7.7%) occurred in patients aged 40 years and below. The figure is higher than that of 1-3% obtained in Caucasian studies. The 5 year survival rate of our patients was nil.

Keywords: *Intra-oral, carcinoma, under 40, clinicopathological review*

Résumé

Le carcinome squameux cellulaire intra-oral (SCC) est une maladie vue communément chez les malades âgés de 50 et au-delà. Un rapport récent sur le SCC intra-oral parmi la population Nigérienne a placé l'âge moyen d'occurrence de la maladie à 50.7 années pour les hommes et 49.6 années pour les femmes. L'âge est reconnu comme étant un facteur important au début et à la fin des maladies comme le cancer. L'objectif de cette étude était de mener une révision clinicopathologique sur la fréquence, le mode de présentation, la gestion et l'effet de la maladie sur les malades âgés de 40 ans et en-dessus qui ont été examinés au collège de médecine à l'université d'Ibadan entre 1980-1995. Pendant la période sous révision, le nombre total de cas de SCC était de 104 parmi lesquels 8 (7.7%) se sont produits dans les malades âgés de 40 ans et en-dessous. Le chiffre est encore plus élevé que celui de 1-3% obtenus dans les études Caucasiennes. Le taux de survie de 5 ans de nos malades était nul.

Introduction

Squamous cell carcinoma (SCC) constitutes the most common malignancy encountered in the oral cavity. It has a

peak frequency of occurrence in patients about 60 years of age, and various studies have indicated a preference for men. While the neoplasm is considered common, its occurrence in younger patients is uncommon. A frequency of between 1 – 3 % has been reported in patients 40 years and below. There is a paucity of reports on the frequency of SCC of the oral cavity occurring exclusively in black populations under the age 40 years. This study documents the frequency, pattern of clinical presentation, and outcome of management in a Nigerian population and compares our results with those of other studies.

Materials and methods

This was a retrospective study of all histologically confirmed cases of SCC in patients aged 40 years and below treated at the University College Hospital Ibadan, between 1980-1995. During the period under review 362 oral malignancies were recorded out of which 104 were SCC. Eight of these cases occurred in patients aged 40 years and below, representing 2.2 % of all malignancies and 7.7 % of squamous cell carcinomas.

Case notes, histological reports (incisional and excisional) and radiographs (where available) were consulted to extract information on age, site, sex, size of tumour disease duration, clinical presentation, management and results. Paraffin blocks were retrieved where available and ribbons of 4 microns thickness were cut afresh for each case and stained with haematoxylin and eosin. Slides were read by one of us to confirm the accuracy of the histological diagnoses. Cancer staging was done according to the American Joint Committee for Cancer staging criteria [1].

Results

Incidence, sex, and age

Five out of the eight patients or 62.5 % were males while 37.5 % were females, representing a ratio of almost 2:1. The age at the time of diagnosis ranged from 16-40 years with an average of 30.5 years. (Table 1)

Site, size and duration

The tongue was most the common site of occurrence, followed by the palate. The size of the tumour ranged from 4cm to 6cm in maximum diameter, with a mean of 4.5cm. The mean duration of symptoms was 8.5 months, with a range of 4-12 months.

Table 1: Distribution of Patients age, sex, site, size, duration and presenting symptoms.

Case No.	Sex	Age	Site	Size on Presentation	Duration	Presenting Symptom
1	M	35 yrs.	Rt Mandible	6cm x 4cm	12 months	Pain and bleeding
2	F	16 yrs.	Tongue	4cm x 3cm	7 months	Bleeding on mastication
3	F	27 yrs.	Palate	4cm x 5cm	4 months	Bleeding on mastication
4	M	36 yrs.	Tongue	6cm x 5cm	10 months	Pain and bleeding
5	M	40 yrs.	Lt Alveolar ridge	4cm x 4cm	12 months	Pain, bleeding and inability to masticate properly
6	M	32 yrs.	Floor of Mouth	4cm x 4cm	8 months	Pain and inability to speak well
7	F	26 yrs.	Tongue	4cm x 3cm	6 months	Bleeding, pain and inability of speech.
8	M	32 yrs.	Palate	4cm x 3cm	9 months	Bleeding, no pain

Histological diagnosis

Four of the eight cases were histologically diagnosed as well differentiated representing 50%, while 3 cases were diagnosed as poorly differentiated, representing 37.5%. Only one case of moderately differentiated carcinoma was encountered (Table 2). Tumour classification, management and result.

Stage III

The majority of the cases in the present study fell under this category, 5/8 or 62.5%. One of the patient absconded to seek traditional treatment, and can only be presumed dead. Two patients had mandibulectomy with radical commando procedure and radiation, while another two had maxillectomy with radiation. Three of these patients sur-

Table 2: Profile of histological diagnosis, tumour classification, treatment, and follow-up

Case No.	Histological diagnosis	Tumour Classification	Treatment	5 yr follow-up
1	Well differentiated squamous cell carcinoma	Stage III	Radiation, Hemimandibulectomy with radical commando procedure and radiation .	Died 2 * years post surgery
2	Poorly differentiated squamous cell carcinoma	Stage III	No record. Patient absconded	-
3	Poorly differentiated squamous cell carcinoma	Stage III	Hemimaxillectomy with radiation	Died from recurrence, and massive haemorrhage 30 months later
4	Well differentiated squamous cell carcinoma	Stage IV	Tongue resection with radical neck dissection. Radiation	Died after 1 * years
5	Well differentiated squamous cell carcinoma	Stage III	Hemimandibulectomy with radiation	Died after 3 years from recurrence of primary lesion.
6	Moderately differentiated squamous cell carcinoma	Stage IV	No record of treatment	-
7	Poorly differentiated squamous cell carcinoma	Stage II	Tongue resection with radiation	Patient died 18 months post treatment
8	Well differentiated squamous	Stage III	Hemimaxillectomy	Lost to follow-up after 6 months.

Stage II lesions

Only one patient was staged in this category (Table 2). She had a lesion on the tongue, which was treated by wide excision. There was recurrence of the primary lesion twelve months later. She refused further surgical intervention, but agreed to radiation therapy. She however absconded from treatment and died six months later.

vived for 2 * to 3 years post surgery and later died, while one was lost to follow-up 6 months after surgery and is also presumed dead.

Stage IV

Two cases were encountered under this category. One had a moderately differentiated tumour. This 32 year old male patient did not report for treatment according to avail-

able clinical records. The other patient was a 36 year old male with a tongue lesion involving two nodes, and had tongue resection with radical neck dissection, followed by radiation. He survived for 1* years before he died from metastasis.

Discussion

Incidence, age, and sex

The results obtained from this retrospective study indicated that over the 15 year period covered, only 8 cases of squamous cell carcinoma were diagnosed in the 40 year and below age group. This represents 2.2% of all of the malignancies recorded within the same period and 7.7% of all squamous cell carcinomas. The figure recorded for all cases of cancer in our study is higher than that of 1.5% reported by Burzynski *et al* [2] in a study of squamous cell carcinoma among patients less than 40 years of age.

Also our value of 7.7% for total incidence of SCC in patient 40 years and under is higher than those of 3.6% reported by McGregor *et al* [3], and 2% reported by Burzynski *et al* [2] and 5.5% reported by Annertz *et al* [4] among Caucasian patients. The mean age at the time of diagnosis in our study was 30.5 years, and the youngest patient was 16 years old. A mean age of 50.7 years for male and 49.6 years for female had previously been reported for the incidence of SCC of the oral cavity among Nigerians [6]. This value is much lower than the value in other studies [4], and can possibly be linked to the general low life expectancy in most developing countries. There was a male preponderance in our study, which concurs with other studies [2], but disagrees with others [4,5]

Site, size and duration

The tongue was the predominant site in our study with a percentage of (37.5%). Out of our 3 cases with tongue lesion, 2 occurred in females below age 30, while the only male was 36 years of age. McGregor *et al* [3] reported a preponderance of females for SCC of the tongue. It occurred in 16/27 (59.2%). In a previous study [5] at our institution covering a 25 year period, tongue lesions came second and accounted for 22/90 (24.5%) of total intra-oral SCC seen. The palate was mostly favoured accounting for 38 (42.3%) out of the 90 cases. The reverse was the case in the present study, in which 2/8 (25%) of cancer occurred in the palate, with a male to female ratio of 1:1. It is important to mention that all the female patients with cancer of the palate and tongue encountered in our study were under the age of 30 years. This observation has been documented by other authors [3,6].

The average duration of symptoms before presentation in the present study was 8.5 months. Low accuracy in clinical diagnosis at initial contact before referral, ignorance, and fear of the disease were noted to have contributed to this rather long delay before presenting at our hospital. The size of the lesion was directly related to disease duration. All lesions recorded were between stages

T² and T³. In the 23 cases reported by Burzynski *et al* [2] 48% were stage 1V at initial diagnosis. No reason was advanced for the delay.

Histological diagnosis

Among other factors, such as site, and duration, the prognosis for SCC of the oral cavity is influenced by the degree of cellular differentiation. A well differentiated carcinoma is likely to advance more slowly than the poorly differentiated. Fifty percent of our cases were classified as well differentiated. All the four cases were in males, above 35 years of age except one, who was 32 years. They all survived relatively longer than the rest.

Tumour classification, management and results

Stage II

There was only one case of stage II lesion in our study. A 26 year old female who was initially diagnosed at 6 months of the disease with one node involvement. Histological diagnosis was graded as poorly differentiated. Of the 27 cases of tongue SCC reported by McGregor *et al* [4] 2 were staged as T², and both patients had node involvement at initial diagnosis. Our patient, who had block resection of the tongue with modified neck dissection and radiation died 1* years post management. The cause of her death could not be established as no autopsy was done. The two cases reported by McGregor *et al* [4], were cured, but one died 7 years later from a second primary lesion.

Stage III

Five lesions were encountered in this category. All but two were classified as well differentiated. One of these 2 patients classified as poorly differentiated absconded with no record of treatment. The other had surgery with radiation, but died 30 months later from recurrence of primary lesion, infection and massive haemorrhage.

Two of the 3 patients with well differentiated lesions on the lower left alveolus and right mandible, were classified as (T³N¹) at initial diagnosis. Both had surgery and radiation but died between 30-36 months later from recurrence. The third patient with palatal lesion died from an unknown cause, as she was lost to follow-up 6 months after surgery. Burzynski *et al*, reported 2 out of 23 (9%) of patients as been stage III initial diagnosis. Both had recurrence after surgery and radiation treatment. One died, and the other was lost to follow-up 2 years after initial management.

Stage IV

Two out of our eight cases had stage 1V lesions representing 25%. This is lower than the 48% reported by Burzynski *et al* [3]. Our cases were in males above 30 years of age. One of them with lesion of the floor of mouth did not receive treatment while the other had surgery and radiation therapy for tongue lesion. He died after 18 months from

metastasis to distant organ site. Four out of the 11 stage IV cases reported by Burzynski *et al* [3] survived for between 2-5 years on follow-up.

Conclusion

When compared with other studies [2,3,4] the number of cases in this study is relatively small. Therefore, hard drawn conclusions can not be made from the study.

It is a known phenomenon that a good proportion of lethal diseases are rarely presented to the hospital in developing and under developed countries as a result of diverse socio cultural and/or economic reasons. It is therefore conceivable that the low number recorded might not truly represent the actual incidence of SCC of the oral cavity in the age group reported.

Three key factors were thought to have affected the course of the disease, and management in our cases from the review of the notes. Firstly, in 3 cases, patients actually sought consultation at various private medical clinics within 2-3 months of the onset of their diseases. In the majority of cases an ulcer was diagnosed, and patients were placed on antibiotics for weeks, without any biopsy. Cases were subsequently referred only after lesion had started to cause great discomfort. As a general rule, biopsy is indicated after a maximum of ten days in the management of ulcers that do not respond to conventional treatment. Delay therefore might not always be the patients fault. Although there is an endemic pattern of misrepresentation of facts particularly among patients of low socio-economic strata during clerking, it still does not totally erase the possibility of unnecessary delay caused by some clinicians.

Secondly, socio-economic factors are definitely crucial in the consideration of the special care required by cancer patients. The majority of these patients subsist at the level of border-line poverty. It is common place for patients to therefore delay treatment due to inability to afford their medical bills. In the past, cancer patients received free treatments in our hospital upon the recommendation of the social worker. Unfortunately, this practice has ceased because of the ailing financial fortunes of the hospital, though it ought to be resuscitated.

Finally, some of our patients, particularly males did confess to habitual consumption of locally brewed alcoholic beverages. In some cases, this was combined with the topical application of battery water, in the erroneous belief that this treatment might burn off the ulcer. The role

of ethanol as a predisposing factor in carcinogenesis is documented. In a study [8] which analysed 116 cases of SCC in patients aged 45 years and under, results indicated that tobacco use and excessive alcohol consumption were present in 75% of cases, also confirming our observation.

Cancer management in developing countries is still at the primordial stage, mostly due to lack of facilities. Therefore community education, and early detection are key to management and improvement of post management survival rate.

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