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Oral soft tissue malignancies in Ibadan, Nigeria

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Summary

Eighty-nine primary malignant neoplasms of the oral and oro-pharyngeal tissues excluding bone and salivary gland tissue were studied over a period of 21 years. They constituted 0.4% of the total number of neoplasms seen at the University College Hospital, Ibadan, over that period and contribute only a small proportion, in contrast to the widely held view that oral tumours are very common in Africa. Squamous cell carcinoma was the commonest type of lesion seen and the commonly affected sites were palate, gum (gingiva), tongue, lip and floor of mouth, in that order. The incidental overall male:female ratio is 2.4:1, and it varied for site and type of tumour. In general, the older male is most affected and the peak incidence of the malignancies occurred in the 51–60 years age group.

Résumé

Quatre-vingt-neuf néoplasms malins primaires des tissus tendres oraux et oro-pharyngeaux ont été étudiés pendant vingt et un ans. Et du point de vue de type et de celui de situation, ces néoplasms ne représentent que 0.4% de toutes les tumeurs rencontrées à University College Hospital à Ibadan au Nigéria pendant la période en question. Cela ne s'accorde pas à l'opinion largement répandue que les tumeurs orales et maxillaires se rencontrent beaucoup plus souvent en Afrique qu'ailleurs. La malignité des tissus tendres oraux qui se présente le plus souvent ici c'est le carcinome du tissu squame et les coins les plus souvent atteints en sont le palais, la gencive, la langue, les levrès et le fond de la bouche, dans l'ordre ainsi-indiqué.

Beaucoups plus d'hommes que des femmes sont atteints tel que la proportion en est 2.4:1. La proportion varie aussi en fonction d'endroit et genre de tumeur. Maix il faut bien dire que toujours, c'est les hommes un peu avancés en âge qui sont les plus vulnérables et la pointe de cas de tumeur se situe dans la classe de 51 a 60 ans.

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Introduction

Primary malignant neoplasms of the oral epithelium and oral connective tissues are rare when compared with similar lesions which occur in the lung, rectum, uterus and breast. There is a recognized wide geographical variation in the incidence, type and site of presentation of these oral neoplasms [1,2]. Previous African studies [3–5] have been few, confined to relatively small samples over short time periods, and have included bone and salivary gland tumours; while that of Odukoya *et al.* [6] investigated only squamous cell carcinoma of the oral cavity. The purpose of this study is to undertake a comprehensive investigation into all types of oral soft tissue malignancies, excluding salivary gland and bone lesions, as regards their incidence, type, specific location (site), age and sex variations amongst Nigerians seen in Ibadan over an extended time period.

Materials and methods

Between January 1966 and December 1986, a total of 22,856 patients were recorded as suffering from neoplasms of different types and from all body sites, at the Cancer Registry, Department of Pathology, University College Hospital, Ibadan. One hundred and eighty-five (0.8%) were registered as being primary epithe-

lial and soft tissue — excluding salivary gland — malignant neoplasms of the oral cavity. One hundred and seven of the original slides or embedded materials could be retrieved. These were then reviewed by one of the authors (J.O.) using the current criteria recommended by the W.H.O. for the histological typing of oral and oropharyngeal tumours [7]. Only 89, i.e. 0.4%, of the total were found to be acceptable, and to confirm the original diagnosis.

From the available records, the age, sex and year of occurrence of tumour for each patient were abstracted. Location or site of malignancy was also abstracted and coded as recommended by the International Classification of Diseases [8] as lip (140), tongue (141), gum (143), floor of mouth (144), and unspecified (145) for all other sites not specifically or individually designated with a name or code number. This information was keypunched onto an Apple IIe microcomputer and appropriate tables generated.

This study presents a retrospective analysis of 89 cases of primary malignant oral epithelium and oral connective tissue lesions seen in Ibadan over a period of 21 years.

Results

Distribution of site (Fig. 1)

The gum (gingiva) was the most commonly affected site, with 20 (22.5%) patients, followed by the tongue, lip, and floor of mouth respectively. Forty-two (47.2%) of the malignancies did not have their sites described within the limits of the adopted coding system and were therefore grouped as unspecified site [8].

Distribution of type by sex (Table 1)

Sixty-three (70.8%) lesions occurred in males, while 26 (29.2%) were in females: a sex ratio of 2.4:1. Seventy-five (84.3%) were squamous cell carcinomas in nature, out of which 53 (70.6%) occurred in males, resulting in a sex ratio of 2.4:1 for squamous cell carcinoma. All of the seven (7.9%) malignant hyphomas were in male patients, as were the two (2.2%) rhabdomyosarcomas.

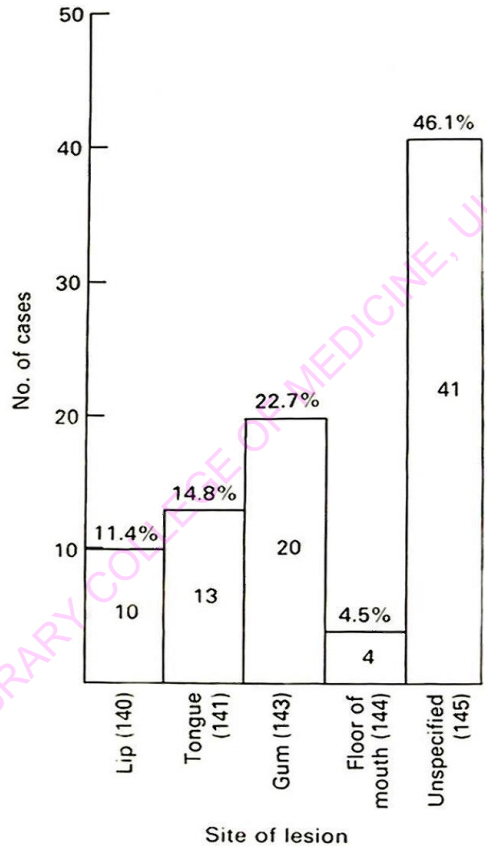

Fig. 1. Oral soft tissue malignancies: distribution by site. Unspecified site refers to areas not specifically designated by name or code according to *International Classification of Diseases* (WHO) [7].

Table 1. Oral soft tissue malignancies: distribution of type by sex

Type	Sex		Total (M:F ratio)
	Male	Female	
Squamous cell carcinoma	53	22	75 (2.4:1)
Malignant lymphoma	7	—	7
Fibrosarcoma	—	1	1
Granular cell myoblastoma	—	2	2
Malignant melanoma	1	1	2
Rhabdomyosarcoma	2	—	2
Total	63	26	89 (2.4:1)

Table 2. Oral soft tissue malignancies: distribution of type by site

Site	Type						
	Squamous cell carcinoma	Malignant lymphoma	Fibrosarcoma	Granular cell myoblastoma	Malignant melanoma	Rhabdomyosarcoma	Total
Lip (140)	10	0	0	0	0	0	10
Tongue (141)	11	1	0	1	0	0	13
Gum (143)	16	2	0	1	1	0	20
Floor of mouth (144)	4	0	0	0	0	0	4
Unspecified site (145)	34	4	1	0	1	2	42
Total	75	7	1	2	2	2	89

Table 3. Oral soft tissue malignancies: distribution of type by 'unspecified site'*

Unspecified site	Type						Total (%)
	Squamous cell carcinoma	Malignant lymphoma	Fibrosarcoma	Granular cell myoblastoma	Malignant melanoma	Rhabdomyosarcoma	
Palate	25	3	1	0	1	1	31 (73.8)
Buccal sulcus	3	1	0	0	0	0	4 (9.5)
Maxilla	3	0	0	0	0	0	3 (7.1)
Mandible	1	0	0	0	0	1	2 (4.8)
Unknown	2	0	0	0	0	0	2 (4.8)
Total (%)	34 (80.9)	4 (9.5)	1 (2.4)	0 (0)	1 (2.4)	2 (4.8)	42 (100)

*Areas not specifically designated by name or code according to *International Classification of Diseases* (WHO) [8].

Distribution of type by site (Table 2)

All the lesions on the lip and floor of mouth were squamous cell carcinomas, as were 16 (60%) and 11 (84.6%) of the lesions on the gum and tongue respectively. Four (57.1%) malignant lymphoma sites were unspecified, while two (28.6%) were situated on the tongue. Also, 34 (45.3%) squamous cell carcinomas were situated in unspecified sites.

Distribution of type by unspecified site (Table 3)

Forty-two (47.2%) malignancies were grouped under unspecified site. Further analysis showed that 31 (73.8%) were situated on the palate, 25 (80.6%) of which were squamous cell carcinomas histologically. Four (9.5%) malignancies were situated in the buccal sulcus, while the sites of two (4.8%) were not known.

Distribution of age range by sex (Fig. 2)

Twenty-eight (31.5%) patients were aged between 51 and 60 years, of whom 20 (71.4%) were males. The ages of five patients (5.6%) were not recorded. Cumulatively, 12 (13.5%) patients were below 30 years, 50 (56.2%) patients were aged between 31 and 60 years, and 22 (24.7%) were aged between 61 and 90 years.

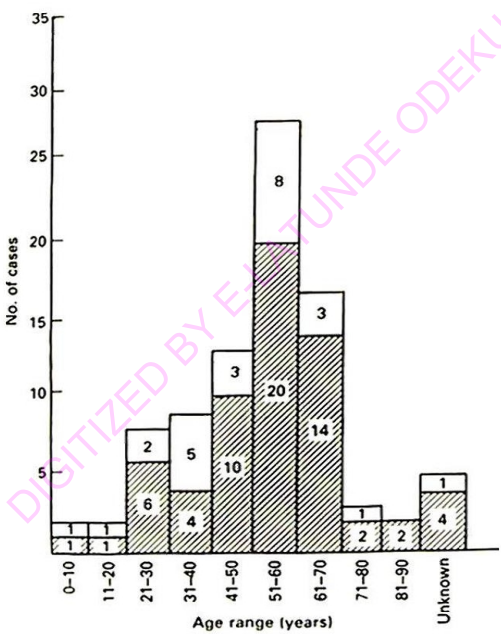

Fig. 2. Oral soft tissue malignancies: distribution of age-range by sex; ☐ = female, ▨ = male.

Distribution of tumour types by age range and sex (Table 4)

Sixty-nine (92.0%) of the 75 squamous cell carcinomas occurred in the 21–50 years age ranges, peaking in the 51–60-year-old male patients.

Discussion

The incidence of primary intra-oral soft tissue malignancies is known to be low and their types are known to vary geographically. Secondary deposits from other distant sites like bone, thyroid, breast, lungs, prostate, and kidneys are very rare. This incidence of 0.4% is lower than the earlier one of 0.7% reported for Ibadan [3], and contrasts sharply with those of 2% for the United Kingdom [1], 3–5% for the United States of America [9] and 40% for India [10]. Squamous cell carcinoma is the commonest lesion affecting all oral sites and it is the only type of lesion seen here on the lip and floor of mouth. Although squamous cell carcinoma constituted only 0.3% of all types of malignancies seen in this study, it formed over 84% of oral soft tissue malignancies, and assumes a far greater significance than the figure of 5.8% reported in Lagos [6]. It is seen commonly in the adult male patient group, while rhabdomyosarcomas and granular cell myoblastomas seem exclusively to be lesions of childhood. Since the prognosis of tumours largely depends on type, site and size, it is suggested that all the geographical or anatomical areas of the oral cavity, e.g. palate, buccal sulcus and lingual sulcus, should be precisely delineated and designated by internationally accepted codes. In this study, the palate was the most unspecified site affected, and by squamous cell carcinoma for that matter. It is also desirable to be able to distinguish between *ab initio* squamous cell carcinoma of the palatal stratified squamous epithelium and squamous cell carcinoma arising from the palatal salivary

Table 4. Oral soft tissue malignancies: distribution of tumour type by age range and sex

	Type													
	Squamous cell carcinoma		Malignant lymphoma		Fibrosarcoma		Granular cell myoblastoma		Malignant melanoma		Rhabdomyosarcoma		Total	
Age range (y)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0–10	—	—	—	—	—	—	—	1	—	—	1	—	1	1
11–20	—	1	—	—	—	—	—	—	—	—	1	—	1	1
21–30	4	1	1	—	—	—	—	—	1	1	—	—	6	2
31–40	2	5	2	—	—	—	—	—	—	—	—	—	4	5
41–50	9	3	1	—	—	—	—	—	—	—	—	—	10	3
51–60	19	8	1	—	—	—	—	—	—	—	—	—	20	8
61–70	12	3	1	—	—	1	—	—	—	—	—	—	13	4
71–80	2	1	—	—	—	—	—	—	—	—	—	—	2	1
81–90	2	—	—	—	—	—	—	—	—	—	—	—	2	—
Unknown	3	—	1	—	—	—	—	1	—	—	—	—	4	1
Total	53	22	7	—	—	1	—	2	1	1	2	—	63	26

M = male; F = female.

glandular epithelium, as the palate is a common site for intra-oral salivary gland tumours in this environment [11].

Smoking, tobacco chewing and excessive alcoholic spirit drinking are suspected causative factors in oral malignancies. Unfortunately, the direct or remote role of these factors, along with those of tobacco inhalation (snuffing) and kolanut chewing, which are common socially accepted habits in this environment, can at best only be speculative. Our patients usually present late, with large, secondarily infected tumours which have been interfered with unsuccessfully by 'local remedies'. Patients further complicate matters by invariably giving a false clinical or natural history of their lesions due to ignorance or social taboos — 'the Nigerian phenomenon'.

It is rather interesting to note that this very low incidence of 0.4% for oral soft tissue malignancies is in contra-distinction to the widely held belief that intra-bony oral tumours are common in Africans.

As the incidence of oral soft tissue carcinomas and sarcomas is expected to increase with the increase in life expectancy of the population which usually accompanies modernization, well-designed and detailed prospective clinical studies need to be undertaken in order to determine the prognosis of treatment related to type, site, size, sex and age of this spectrum of diseases for this environment. There must also be a corresponding increase in the funding, manpower, preventive and therapeutic facilities currently available to cope with the expected increase in incidence.

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References

1. Binnie WN. A perspective of oral cancer. Proc R Soc Med 1976;69:737–40.
2. Douglas CW, Gammen MD, Horgan WJ. Epidemiology of oral cancer. In: Shklar G. Oral Cancer. Philadelphia: Saunders, 1984, 72.
3. Edington GM, Shieham A. Salivary gland tumours and tumours of the oral cavity in Western Nigeria. Br J Cancer 1966;20:425–33.
4. Anand SV, Davey WW, Cohen B. Tumours of the jaws in West Africa. Br J Surg 1967;54:901–17.
5. Daramola JO, Ajagbe HA, Oluwasanmi JO Pattern of oral cancer in a Nigerian population Br J Oral Surg 1979;17:123–8.
6. Odukoya O, Mosadomi A, Sawyer DR, Orejobi A, Kekere-Ekun A. Squamous cell carcinoma of the oral cavity. J Maxillofac Surg 1986;14:26[illegible]-9
7. Wahi PN (in collaboration with Cohen [illegible] Usha K, Luthra, Torloni H). Histological typing of oral and oropharyngeal tumours. International Histological Classification of Tumours. No. 4. Geneva: World Health Organization. 1971.
8. WHO. International Classification of Diseases 1975 Revision, Geneva: World Health Organization, 1975.
9. Tiecke RW, Bernier JL. Statistical and morphological analysis of four hundred and one cases of intra-oral squamous cell carcinoma. J Am Dental Assoc 1954;49:684.
10. Paymaster JC. The problem of oral, oropharyngeal, and hypopharyngeal carcinoma in India. Br J Surg 1957;44:467.
11. Abiose BO, Oyejide O, Ogunniyi J. Salivary gland tumours in Ibadan, Nigeria: a study of 295 cases. Afr J Med Med Sci 1990;19:195–200.

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