Original Article

Histopathology of Orofacial Tumours and Cysts Seen at Gwagwalada, Federal Capital Territory, Nigeria.

Osodin T.E.[1], Abimuku B.[2], Aladelusi T. O.[3], Akinmoladun V.I.[3]

[1]Department of Dental and Maxillofacial surgery, University of Abuja Teaching Hospital, Gwagwalada; [2]Department of Pathology, University of Abuja and University of Abuja Teaching Hospital, Gwagwalada; [3]Department of Oral and Maxillofacial surgery, University of Ibadan and University College Hospital, Ibadan

Abstract

Background: The epidemiology of the histopathology of head and neck tumours in Nigeria have been well documented in the literature; however, it continues to receive significant attention among researchers. This is due to the differences reported between regions, urban versus semi urban centres as well as dental teaching hospitals as against institutions without dental schools. In addition, majority of the literature on this subject also relied on data from the Southern part of the country. The aim of this study was to review and present cases seen at a non-dental school-tertiary and semi urban centre, in the Federal Capital Territory, Abuja. **Materials and methods**: Clinical and histopathology records of the Departments of Dental and Maxillofacial Surgery and Pathology, University of Abuja Teaching Hospital, Gwagwalada, Nigeria, were reviewed for orofacial tumours seen from 2015 to 2020. Data were analysed and results presented as means and frequencies. **Results:** One hundred and five cases were recorded during the study period. Two cases with inadequate data were excluded. There were fifty males and fifty-three females (1:1.1). The ages ranged between 3months and 83years (mean 29.12 ±17.97) years. The mean ages of males and females were 31.04 ±16.27 years and 27.02 ±19.6 years respectively. There were 66 benign and 13 malignant tumours, being 64% and 12.6% of the total number of cases respectively. Nineteen (18.4%) cases were cysts. Ameloblastoma was the commonest benign tumour (21, 31.4% o). There was no clearly predominant malignant tumour recorded. The maxilla was the most commonly affected site (74, 70.4%). **Conclusion:** The frequency and sites of the histopathologic types of lesions observed in this study is rather dissimilar to previous reports from various parts of Nigeria. This may be due to referral pattern to this centre amongst other factors, rather than differences in geographic disease pattern.

Keywords: Orofacial, Tumours, Histopathology,

INTRODUCTION

The orofacial region consisting of the structures within the oral cavity, the jaws and the face, is a site for a variety of neoplastic, tumour-like and inflammatory conditions, with known geographic variations in prevalence and pattern of presentation[1-3]. Lesions within this anatomical region are typically defined as benign or malignant, odontogenic or non-odontogenic[1]. While majority of small hyperplastic and benign lesions are diagnosed and treated at secondary care levels, others, particularly, the

Correspondence:
T E Osodin. Department of Dental and Maxillofacial surgery, University of Abuja Teaching Hospital, Gwagwalada. Phone number: 08062169266E mail: eromose2014@gmail.com

How to cite this article:
Osodin et al. Histopathology of Orofacial Tumours and Cysts Seen at Gwagwalada, Federal Capital Territory, Nigeria.
Ann Trop Pathol 2023;14(2):96-99.

malignant tumours are usually referred to tertiary hospitals for management. This tends to affect the relative prevalence of tumours reported in the literature by various centres. The aim of this study was to determine the types, prevalence, demography and site distribution of orofacial tumour, tumour-like lesions and cysts as seen in a tertiary health institution located in the Federal Capital Territory, Nigeria, and to compare the data with previous reports from other parts of the country.

MATERIALS AND METHODS

This was a retrospective evaluation of the medical records and histological reports of patients with orofacial tumors, cysts and tumor-like lesions who presented to the Dental and Maxillofacial surgery Department of the University of Abuja Teaching Hospital, Gwagwalada from 2015 to 2020. Patients without definitive histological diagnosis were excluded or inadequate data were also excluded from the study. Information extracted from the records included the demographics, histological diagnosis (as made available by the pathologist) and anatomical site location of the lesion. The collected data were analysed using IBM SPSS Version 20 and results presented as means and percentages.

RESULTS

One hundred and five cases of tumours and cysts were histologically diagnosed during the period covered by the study. Two cases with inadequate data were excluded. Cases were made up of fifty males and fifty-three females (1:1.1). The ages ranged between 3months and 83years with a mean of 29.12 (±17.97) years (Table 1). The mean ages of males and females were 31.04 (±16.27) years and 27.02 (±19.6) years respectively. There were 66 benign and 13 malignant tumours, accounting for 64% and 12.6% (ratio 5:1) of the total number of cases respectively (Table 2). Ameloblastoma was the most common benign tumour, occurring in 21 cases (31.4% of benign tumours). The 13 cases of malignancy reported consisted of six salivary gland, 4 connective tissue and 3 epithelial tumours, thereby leaving no clearly predominant tissue or histologic type. There was also no observed sex predilection for the malignant lesions as there was almost equal sex representation of seven males and 6 females. Furthermore, nineteen (18.4%) cases of orofacial cysts, the most prevalent being dentigerous cyst (11, 58%) (Table 3), and five

Table 1: Age and sex distribution of cases

Age groups/sex	**Frequency**	**Percentage (%)**
0-10 years	14	13.3
11-20 years	23	21.9
21-30 years	26	24.8
31-40 years	17	16.2
41-50 years	12	11.4
51-60 years	5	4.8
61-70 years	3	2.9
71-80 years	1	1.0
81-90 years	2	1.9
Gender		
Male	51	49.5
Female	52	50.5

Table 2: Tumours and their relative frequencies

Tumour	**Frequency/%**
Malignant tumours	13 (12.6)
Squamous cell carcinoma	3 (2.9)
Sarcoma	4 (3.8)
Adenocystic carcinoma	3 (2.9)
Adenocarcinoma	3 (2.9)
Benign tumours	66 (64.1)
Odontogenic	28 (27.1)
Ameloblastoma	21 (20.3)
Cementifying Fibroma	5 (4.8)
Keratocystic odontogenic tumour	2 (1.9)
Non odontogenic	38 (36.8)
Epulis/Fibroma	5 (4.8)
Fibrous dysplasia	4 (3.8)
Pyogenic granuloma	3 (2.9)
Pleomorphic Adenoma	9 (8.7)
Haemangioma	2 (1.9)
Inflammatory/Reactive (NOS)	5 (4.8)
Total	**84 (100)**

inflammatory/reactive conditions recorded. (Table 2) The maxilla was the most common site of affectation for all lesions, accounting for 74 (70.4%) of the cases. (Table 4).

Table 3. Cysts And Their Relative Frequency

Cyst		Frequency/%
Odontogenic		*12 (63.2)*
	Dentigerous	11 (57.8)
	Periapical	1 (5.2)
Non-Odontogenic		*7 (36.8)*
	Ranula	4 (21.0)
	Epidermoid cyst	2 (10.5)
	Thyroglossal	1 (5.2)
Total		**19 (100)**

Table 4. Site Distribution of Lesions

Site	Frequency (%)
Mandible	9 (8.7)
Maxilla	74 (71.8)
Salivary gland	5 (4.9)
Maxillary sinus	4 (3.9)
Oral cavity	6 (5.8)
Tongue	4 (3.9)
Skin	1 (1.0)
Total	**103 (100)**

DISCUSSION

Globally, the relative incidence of orofacial tumours and tumour-like lesions shows geographic and racial differences [4-6]. Several studies on the subject had been previously reported in Nigeria, with reports largely emanating from large tertiary centres and teaching hospitals especially from the southern part of the country[1,3,4]. However, the epidemiology and the prevalence of the various tumours in Nigeria remains far from being foreclosed and continues to receive attention. In this study, the mean age of cases was 29.12 years, and both sexes were equally affected (M: F=1:1.1). The semi urban setting of the facility may explain the relatively young mean age of the patients. The difference between the frequency of benign and malignant conditions agrees with previous reports from other parts of Nigeria where benign lesions were usually significantly more than malignant lesions in their distribution [1,3,4]. However, much higher proportion of cases of malignancies were recorded in this study compared to those above. In addition, squamous cell carcinoma is often reported as the most common malignant histological diagnosis in the orofacial region [7-11], however only three cases were recorded in this series. Other malignant jaw tumours were also few and Hodgkin and non-Hodgkin lymphomas were not observed in this series. The reason for this difference may be that oncology cases were probably referred to either other specialties or the larger and better oncologically equipped hospital in town rather than our centre. Odontogenic tumours (OT) account for 27.1% (28) of all biopsies and 42.4 % (28) of all benign tumours. However, ameloblastoma was the most predominant jaw tumour in this report accounting for 20.3% (21) of all conditions, 31.8% of all benign tumours and 75% of all odontogenic tumours. It has been previously reported as the most common jaw tumour in our environment [12-14], although the relative prevalence varies from centre to centre; Arotiba et al. (16% out of 415 OT).[15], Ladeinde et al. (63% out of 319 OT).[12] and 83.3% obtained by Adebiyi et al.[16] and Bassey et al. (80.3% out of 66 OT) [3].

The frequency of reactive and inflammatory lesions is much lower in this series than for other pathologic conditions. This could be because of patients' reluctance to present for apparent lack of need for surgical intervention when such lesions are asymptomatic and often unchanged for a long time. Similarly, of the cysts recorded in this series, dentigerous cyst accounts for 11 cases (57.8%) with only one case of radicular cyst reported. Periapical lesions (granuloma and cyst) which are usually inflammatory, are rarely subjected to histopathology in the centre. Patients often favour an extraction rather than a periapical surgery. Cost may also preclude histology of lesions attached to periapical region of extracted teeth. The maxilla accounts for 74(71.8%) cases as against the nine (8.7%) cases recorded for the mandible. Although the palate was not separated from the maxilla in the records, this overwhelmingly skewed site distribution in favour of the maxilla cannot be fully explained by this finding.

CONCLUSION

The pattern of histopathologic presentation of orofacial tumours observed in this study is rather dissimilar to the literature from other parts of the country. This may have been influenced by pattern of patient referral to this centre, rather than differences in disease pattern or geographic variation. Non availability of a designated pathologist for orofacial lesions and quality of records are other possible contributory factors.

REFERENCES

1. Arotiba JT, Adebola RA, Ajike SO, Adeola DS, Ladeinde A. Orofacial tumors and tumor-like lesions in Kano, Nigeria. Nig J Surg Research 2003; 5:134-139
2. Kamulegeya A, Kalyanyama BM. Oral maxillofacial neoplasms in an East African population: a 10 year retrospective study of 1863 cases using histopathological reports. BMC Oral Health 2008; 8:19
3. Bassey G, Osunde O, Anyanechi C. Maxillofacial tumors and tumor-like lesions in a Nigerian teaching hospital: an eleven year retrospective analysis. African Health Sciences. 2014; 14(1):56-63.
4. Aregbesola SB, Ugboko VI, Akinwande JA, Arole GF, Fagade OO. Orofacial tumors in suburban Nigerian children and adolescents. Br J Oral Maxillofac Surg 2005; 43: 226-231
5. Abdulai AE, Nwamah IK, Gyasi R. Head and Neck tumors in Ghanaian children. A 20 year review. Int J Oral Maxillofac Surg 2012; 41:1378-1382
6. Wakiaga JM, Oyango JF, Awange DO. Clinico-pathological analysis of jaw tumors and tumor-like conditions at the Kenyanta National Hospital. East Afr Med J1997; 74(2): 65-68
7. Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. CA: a cancer journal for clinicians. 2005; 55(2):74–108.
8. Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. CA: a cancer journal for clinicians. 2011; 61(2):69–90.
9. Erinoso, O. A., Okoturo, E., Gbotolorun, O. M., Effiom, O. A., Awolola, N. A., Soyemi, S. S., et al.,(2016). Emerging Trends in the Epidemiological Pattern of Head and Neck Cancers in Lagos, Nigeria. Annals of medical and health sciences research, 6(5), 301–307
10. Gormley, M., Creaney, G., Schache, A. et al. Reviewing the epidemiology of head and neck cancer: definitions, trends and risk factors. Br Dent J 233, 780–786 (2022).
11. Adisa, A.O., Adeyemi, B.F., Oluwasola, A.O. et al. Clinico-pathological profile of head and neck malignancies at University College Hospital, Ibadan, Nigeria. Head Face Med 7, 9 (2011)
12. Ladeinde AL, Ajayi OF, Ogunlewe MO, et al. Odontogenic tumors: a review of 319 cases in a Nigerian teaching hospital. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2005; 99(2):191-195.
13. Oginni FO, Stoelinga PJ, Ajike SA, et al. A prospective epidemiological study on odontogenic tumours in a black African population, with emphasis on the relative frequency of ameloblastoma. Int J Oral Maxillofac Surg. 2015; 44(9):1099-1105.
14. Aregbesola, B., Soyele, O., Effiom, O., Gbotolorun, O., Taiwo, O., & Amole, I. (2018). Odontogenic tumours in Nigeria: A multicentre study of 582 cases and review of the literature. Medicina oral, patologia oral y cirugia bucal, 23(6), e761–e766.
15. Arotiba JT, Ogunbiyi JO, Obiechina AE. Odontogenic tumors: a 15-year review from Ibadan, Nigeria. Br J Oral Maxillofac Surg. 1997; 35:363–367.
16. Adebiyi KE, Odukoya O, Taiwo EO. Odontogenic tumors: analysis of 197 Nigerian cases. Int J Oral Maxillofac Surg. 2004;13:766–770