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Clinical characteristics and presentation of ameloblastomas: an 8-year retrospective study of 240 cases in Eastern Nigeria

F.N. Chukwuneke [a,*], C.E. Anyanechi [b], J.O. Akpeh [c], A. Chukwuka [d], O.C. Ekwueme [e]

[a] *Department of Oral and Maxillofacial Surgery, University of Nigeria Teaching Hospital, Enugu Nigeria*
[b] *Department of Oral and Maxillofacial Surgery, University of Calabar Teaching Hospital, Calabar Nigeria*
[c] *Department of Otorhinolarngology, University of Nigeria Teaching Hospital Enugu, Nigeria*
[d] *Department of Oral and Maxillofacial Surgery, Nigerian Airforce Hospital Ikeja, Lagos Nigeria*
[e] *Department of Community Medicine, University of Nigeria Teaching Hospital Enugu, Nigeria*

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Abstract

Our aim was to summarise the clinical characteristics and presentation of ameloblastomas in eastern Nigeria. We organised a retrospective study of 240 patients who presented with ameloblastomas to the Oral and Maxillofacial Surgery units of five specialist hospitals in the eastern states of Nigeria over an eight-year period (2004-2011). We analysed the casenotes, and categorised the cases by site of tumour, age, sex, and time of presentation. There were 117 men (49%) (mean (SD) age 43 (6.2) years) and 123 women (51%) (mean (SD) age 32 (4.7) years), a male:female ratio of 1:1.1. The largest age group was 20-39 years (n=102, 43%), and the most common site was the anterior mandible (n=140, 58%). Most of the patients presented late**.** Our results show that the most common site of ameloblastomas in Eastern Nigeria is the anterior mandible and that women are affected more than men, which is at variance with the results of most other studies.

Keywords: Ameloblastoma; Time of presentation; Clinical characteristics; Eastern Nigeria.

Introduction

The term "ameloblastoma" was first suggested by Churchill in 1934 to replace the term "adamantinoma" that was applied to this particular type of tumour that affected mainly the lower jaw.[1] The lesion, of odontogenic origin, was first recognised by Cusack in 1827.[2] Adamantinoma was the name coined by Malassez in 1885 to denote the formation of a mass of hard tissue that seemed to characterise the appearance of the jaw, but no such material was present in the lesion so its name was changed to ameloblastoma.[2,3]

Ameloblastomas are the most common odontogenic tumours of the jaw, which account for 1% of all cysts and tumours of the jaw, and 11% of all odontogenic tumours.[4] They are aggressive but benign, and of epithelial origin, and may arise from the enamel, dental follicle, periodontal ligaments, and lining of odontogenic cysts. The resulting tumours are not usually malignant though the growth of tissue may be aggressive in the involved area. They are known for their tendency to invade the mandible and their high rate of recurrence. Malignancy and metastases are uncommon, though they do occur occasionally,[5] but they can be aggressive and locally-invasive, cause severe abnormalities of the orofacial region,[6] and are often associated with unerupted teeth.

Ameloblastomas have a characteristic presentation radiographically and can tentatively be diagnosed on radiographs, but the diagnosis must be confirmed histologically.[7] They

* Corresponding author at: Oral and Maxillofacial Unit, Faculty of Dentistry, UNTH, Enugu.
E-mail address: ichiefn2002@yahoo.com (F.N. Chukwuneke).

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appear as radiolucent lesions of varying sizes in the bone, and have either a unilocular or a multilocular "soap bubble" appearance. Published opinions differ about clinical presentation and characteristics regarding site, age, and sex distributions.[8–10] While some authors have suggested that the rate of occurrence is higher in men,[11,12] others have found that men and women are equally affected.[13] However, these findings may be related to geographical variations and the place of study.

We were unaware of any previous descriptive study of amelolastomas among patients in eastern Nigeria, so we undertook an eight-year retrospective review of 240 cases seen in five specialist centres that focussed on yearly occurrence, site, and sex and age distribution.

Patients and methods

We made a retrospective study of 240 orofacial lesions that were diagnosed as ameloblastomas in five specialist hospitals in eastern Nigeria over an 8-year period from January 2004 to December 2011. These patients were referred to the units by the dental surgeons, medical practitioners, and health centres in the catchment areas of the hospitals, which are the south-eastern states, south states, and the Benue state of the Federal Republic of Nigeria.

The casenotes were retrieved, analysed, and evaluated. Relevant information about the patients' dental habits, personal and clinical data, onset of symptoms, and time interval before presentation were recorded. Clinical and laboratory findings including biopsies of ameloblastomas were also noted. We categorised the cases by the site of the tumour, sex and age of the patients, and the time of presentation. Clinical characteristics were also evaluated based on the tumour site, and age and sex were adjusted by the time of presentation.

Results

All of the patients were Nigerian and most were from the lower economic class. Most of them came from remote, rural areas, had little or no formal education, and lived at a subsistence level. About half were local farmers, 10 (4%) were students, and the rest were casual workers, petty traders, and artisans. A total of 240 cases of ameloblastoma were recorded during the study, And most of the tumours were at an advanced stage at presentation (Figs. 1 and 2). The treatment of choice was mostly subtotal and total mandibulectomy, with a few cases of segmental resection and enucleation. The number of cases by the year of presentation, sex, and age group are shown in Table 1. Of the 240 cases, the mean (SD) annual number of cases was 30 (7.8), with a mean (SD) of 14 (5.4) cases/year in men and 16 (4.5) in women. The highest number of cases (n=44) was recorded in 2006. All the lesions were in the mandible and none in the maxilla. The symphyseal or the anterior region was involved in 140 cases, which was the most common site in 100 (Table 2). There was a variation in the male:female ratio for different age groups and annual occurrence (Table 1).

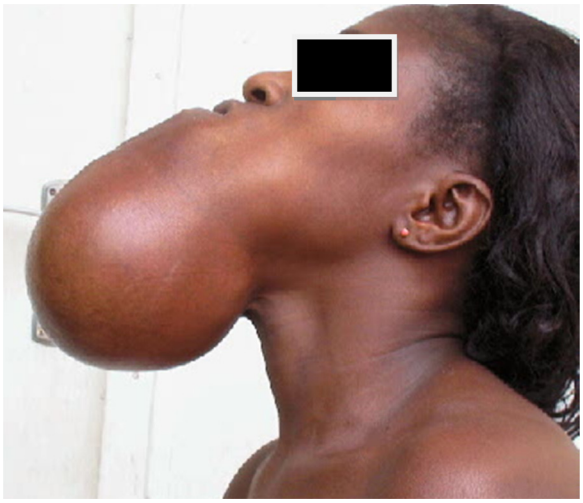

Fig. 1. Ameloblastoma affecting the anterior segment of the mandible in a middle-aged woman (published with the permission of the patient).

Table 1 shows the number of cases in each age group. The number of cases was highest (102/240; 43%) among the age group 20-39 years (Fig. 3). Nineteen patients were between the ages of 1-19 years, 8% of the total number and the fewest cases seen. The most common radiological finding was multilocular, which accounted for 176 cases (73%). Thirty-four

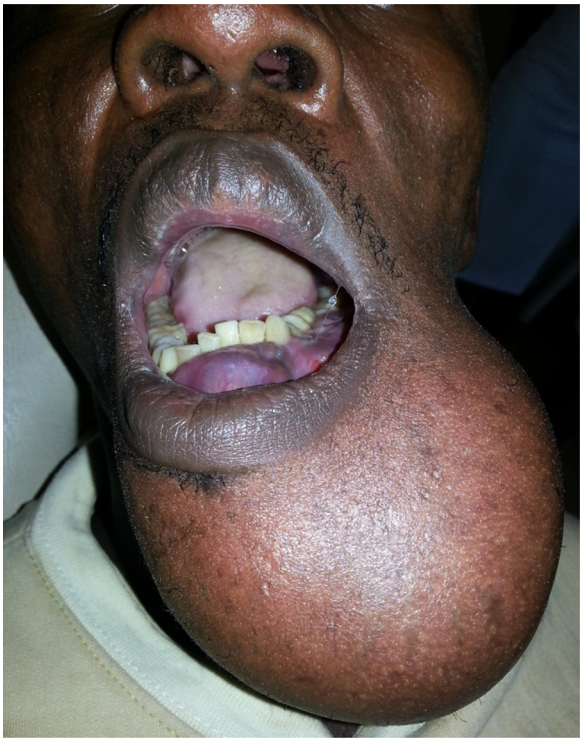

Fig. 2. Advanced ameloblastoma affecting the anterior segment of the mandible in a middle-aged man (published with the permission of the patient).