Original article

RETROSPECTIVE REVIEW OF AMELOBLASTIC FIBROMA IN TWO NIGERIAN TERTIARY HEALTH CENTRES

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ABSTRACT

OBJECTIVE: Ameloblastic fibroma (AF) is an uncommon benign mixed odontogenic tumour with a relative frequency of between 1.5% and 4.5%. The epithelial component of AF resembles ameloblastoma, while the stromal component appears as an immature cell-rich myxoid tissue with an embryonic appearance. The aim of this study was to analyze AF cases seen in two Tertiary Dental Centres in Nigeria.

METHODS: The Oral Pathology records of University College Hospital (UCH), Ibadan and the Obafemi Awolowo Teaching Hospital (OAUTH), Ile Ife were searched for lesions diagnosed as AF between the period of 1999-2015 for UCH and 2003 to 2013 for OAUTH. Demograhic data including age, gender and site were analyzed.

RESULTS: Fifteen cases of AF representing 3.1% of all odontogenic tumours were reported. There were 8 (53.3%) males and 7 (46.7 %) females giving a 1.2:1 male: female ratio. The age range was 12-63 years, with a mean age of 28.3 (±16.8) years. The peak age incidence was in the second and third decades of life, both accounting for 10 (66.7%) cases. There was a mandibular predilection, with 14 (93.3%) cases occurring in the mandible while only 1 (6.7%) case was found in the maxilla.

CONCLUSION: This study showed that AF is a relative rare lesion and the demographics were essentially similar to previous reports. However, the mean age in this study was higher than those reported by most studies. A larger multicentre study will be appropriate to further investigate the differences obtained in this study and previous studies.

Key words: Ameloblastic fibroma, Nigerian population, mandible

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INTRODUCTION

Ameloblastic fibroma (AF) was first reported in 1891 by Kruse. [1] It is an uncommon benign mixed odontogenic tumour with a relative frequency of between 1.5% and 4.5%.[2] AF consists of odontogenic ectomesenchyme reminiscent of the dental papilla and epithelium similar to dental lamina and enamel organ without dental hard tissues.[3] The epithelial component of AF resembles ameloblastoma, while the stromal component appears as an immature cell-rich myxoid tissue with an embryonic appearance.[3]

AF has been reported in patients aged 7 weeks to 51 years, [4] but the tumour is considered a tumour

of childhood and adolescence and occur almost exclusively in the first and second decades of life.[5,6] Most cases of AF present as painless swelling or are discovered due to disturbances of tooth eruption. Radiographically, the tumour presents as a well demarcated radiolucency, often in connection with a mal-positioned tooth.[2]

Studies on the demographics of AF are uncommon and previous studies are either case reports or part of studies on odontogenic tumours as a whole. [7] Therefore, the aim of this study was to analyze AF cases seen in two Tertiary Dental Centres in Nigeria.

MATERIALS AND METHODS

The Oral Pathology records of University College Hospital (UCH), Ibadan and the Obafemi Awolowo Teaching Hospital (OAUTH), Ile Ife were searched for lesions diagnosed as AF over a 16 year period (between the period of 1999-2015 for UCH and 2003 to 2013 for OAUTH).

Demograhic data including age, gender and site were obtained and entered into and analysed using SPSS for Windows (version 20.0; SPSS Inc. Chicago, IL). Qualitative data were compared using chi-square statistics, the level of significance was set at $p<0.05$.

RESULTS

A total of 478 cases of odontogenic tumours (OTs) were diagnosed from the two Centres during the study periods, among these were 15 cases of AF representing 3.1% of all odontogenic tumours. There were 8 (53.3%) males and 7 (46.7 %) females giving a 1.2:1 male: female ratio. The age range of occurrence for cases of AF was 12-63 years, with a mean age of 28.3 (±16.8) years. The peak age incidence was in the second and third decades of life, both accounting for 10 (66.7%) cases. There was mandibular predilection with 14 (93.3%) occurring in the mandible, while only 1(6.7%) case was seen in the maxilla of a 55-year-old woman. Table 1 shows the summary of all cases seen in this study.

DISCUSSION

AF was classified in the WHO 2005 classification of odontogenic tumours as odontogenic epithelium with odontogenic ectomesenchyme, with or without hard tissue formation.[3]

Table 1: Demographic distribution of Ameloblastic fibroma

S/N	Gender	Site	Age (years)
1.	Male	mandible	63.0
2.	Male	mandible	19.0
3.	Female	mandible	21.0
4.	Female	mandible	28.0
5.	Male	mandible	14.0
6.	Male	mandible	57.0
7.	Male	mandible	34.0
8.	Female	mandible	28.0
9.	Female	mandible	25.0
10.	Male	mandible	14.0
11.	Female	maxilla	55.0
12.	Male	mandible	15.0
13.	Female	mandible	12.0
14.	Female	mandible	23.0
15.	Male	mandible	17.0

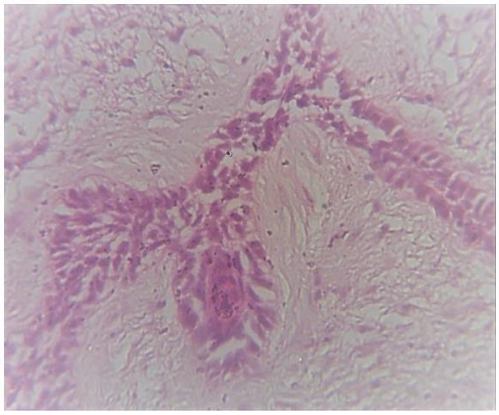

Figure 1: Photomicrograph of ameloblastic fibroma showing strand of odontogenic epithelium with prominent knot, palisading of the ameloblast cells and peri-tissue fibrosis of the connective tissue stroma (H&E x400)

The epithelial component is similar to that of ameloblastoma, while the stroma is made up of cell rich immature myxoid material with an embryonic appearance.[7,8] The finding of this study that AF represents 3.1% of odontogenic tumours. AF is rare lesion and this study reports one of the largest series in the African literature. The finding in this study was higher than most previous studies with reports of 1.8% from China,[9] 1.6% from the USA,[10] 1.7% from

Brazil,[11] and 2.4% from Egypt,[12] but lower than the 4.2% from a previous study from Nigeria.[13]

AF is commonly reported in young people in the first and second decades of life,[5, 6] but this seem to contradict our findings of a mean age occurrence of 28.3 years and a peak age incidence in the second and third decades of life. Most of the cases reported were found in the second decade of life. Vij and Vij[14] reported 2 cases in a ten-year old and a twelve-year-old, while Rao et al.[15] reported a case in a nineteen-year old. In a report from the Armed Forces Institute of Pathology, Trodahl et al.[16] found a mean age of 15.5 years. However, a study by Adebayo et al.[17] from Nigeria reported a mean age of 23 years. The reason for the higher mean age reported in this study and that of a previous study from Nigeria need further investigation, but it may not be unrelated to the late presentation of patients to the hospital and late diagnosis in our environment.

The mandible has been mostly reported as the preferred site for the occurrence of AF when compared with maxilla. Buchner et al.[18] reported an obvious mandibular preponderance with 73% of cases in their series occurring in the mandible, while only 27% were seen in the maxilla. The finding of this study of 93% in the mandible though higher than most reports was similar to the finding of Lu in China, [9] who reported 92% of AF in the mandible. However, a study from Mexico[19] showed a slight maxillary predilection with 60% in the maxilla and 40% found in the mandible in their study.

AF occurred slightly more in males with a male female ratio of 1.2:1 in this study. This was in conformity with most previous studies by Buchner et al.[18] in the USA, Mosqueda-Taylor et al.[19] from Mexico and Kebede et al.[20] from Ethiopia reporting male: female of 1.8:1, 1.5:1and 2:1 respectively.

In conclusion, this study reviewed AF in two Tertiary Health facilities in a Nigerian population and confirmed the relative rarity of AF. This study also showed similar demographics with previous reports. However, the mean age in this study was higher than the findings reported by most previous studies. A larger multicentre study will be appropriate to further investigate the differences obtained in this study and previous studies.

Conflict of Interest: None declared

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