

A Review Of 119 Cases Of Ameloblastoma Seen At The Korle-Bu Teaching Hospital

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ABSTRACT:

This study reviewed 119 patients with ameloblastoma treated at the Department of Oral and Maxillofacial Surgery Unit of the Korle-Bu Teaching Hospital between 1972 and 1999. Patients age ranged from 12 to 68 years, with an average age of 27 years. Sixty-four percent (64%) of the cases were in the 2nd and 3rd decades of life. The overall male to female ratio was 1.04: 1. Ameloblastoma occurred only in the mandible in all the patients, with 30% occurring unilaterally and posteriorly in the body and ramus. Treatment was mainly surgical. Mandibulectomy with the insertion of Kirschner wire was mainly performed. Mandibulectomy with reconstruction of the mandible was performed on only 9 patients. It is encouraging to note that this latter method of treatment is being carried out to ensure better quality of life for these patients.

KEY WORDS: Ameloblastoma, Jaw tumour, Resection, Hemimandibulectomy.

INTRODUCTION

Ameloblastoma is a common odontogenic jaw tumour of ectodermal origin which has been described as locally aggressive with a high propensity for recurrence after surgery.^{1,2,3} Proper treatment of ameloblastoma is controversial. Several case reports and retrospective studies could be found in the literature with as many reports favouring conservative techniques^{4,5,6,7,8} as there are for those proposing more aggressive approaches.^{1,9,10,11, 12} There is hardly any information on ameloblastoma in Ghanaians in the literature. This paper examines 119 cases of ameloblastoma seen at the Korle-Bu Teaching Hospital, Accra, within the period 1972 to 1999.

MATERIALS & METHODS

The patient case-notes and theatre records of 119 patients with ameloblastoma of the jaws, who were treated at the Oral and Maxillofacial Surgery clinic of the Korle-Bu Teaching Hospital between 1972 and 1999 [a period of 27 years], were retrieved for study. These patients were Ghanaians referred from various hospitals in the ten (10) regions of the

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country. The case-notes of twenty-eight (28) patients with ameloblastoma which were not accessible at the time of study were excluded. The data obtained on age, sex, clinical presentation, site and treatment modalities and their outcome were analysed.

RESULTS

The ages of the patients ranged from 12 to 68 years (with an average age of 27 years). Fig. 1 shows the age and sex distribution at the time of presentation with the 11-30 year age group constituting 64% of

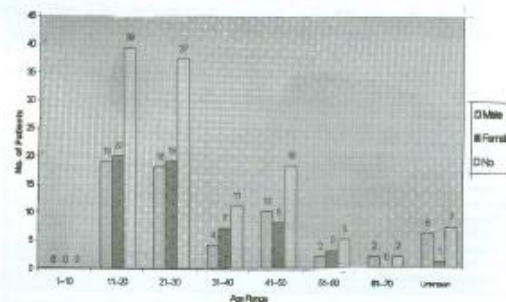


Fig. 1: The Age and Sex distribution of Patients with Ameloblastoma

the cases. Of the 119 patients in this study 61 (51%) were males and 58(49%) were females giving a male to female ratio of 1.04 : 1. Females outnumbered the males up to age 40 after which this trend was reversed.

The site distribution of the ameloblastomas is as shown in Table 1. All the cases recorded occurred in the mandible. No maxillary lesions were recorded. The most commonly affected site is the body-ramus followed by symphysis-body together. The least affected site is the symphysis-body-ramus combination. All cases with the exception of five were managed by surgical resection of the tumour. The frequency of each surgical technique (Table 2) were; mandibulectomy with reconstructions using bone grafts 7.6%, marginal resection with the preservation of the lower border or lingual plate 11.7% and hemimandibulectomy 17.7%. Sub-total resection of the mandible was carried out in 10.1% of the cases. Mandibulectomy with the insertion of the adapted Kirschner wire into the resected ends was the most common surgical method. Iliac crest and rib grafts were also used in some patients.

Table 1: Site distribution of ameloblastomas of the mandible

Site	Number of Patients	%	Designation
Symphysis and Body [Unilateral]	22	18.5	Anterior/Posterior
Symphysis-Body-Ramus [Unilateral]	9	7.6	Anterior/Posterior
Body Only [Unilateral]	18	15.1	Posterior
Body and Ramus [Unilateral]	30	25.2	Posterior
Symphysis-Parasymphysis [Bi-lateral]	10	8.4	Anterior
Left Body-Symphysis-Right Body [Bi-lateral]	19	16.0	Anterior/Posterior
Lt. Ramus-Body-Symphysis-Body-Rt. Ramus [Bi-lateral]	11	9.2	Anterior/Posterior
Total	119	100.0	

Table 2: The surgical technique used in the management of ameloblastoma

Surgical Technique	Number	%
Mandibulectomy (With reconstruction using bone graft and Titanium plates)	9	7.56
Mandibulectomy (With the insertion of Kirschner wire)	58	48.73
Marginal /en bloc resection (With the preservation of lingual plate or lower border)	14	11.76
Hemimandibulectomy	21	17.64
Sub-total resection	12	10.1
No surgery	5	4.2
Total	119	100



Fig. 1: A massive ameloblastoma of the mandible showing gross facial disfigurement

DISCUSSION

Ameloblastoma has been reported as a common jaw tumour which occurs during the second and third decades of life.^{1,2} The recorded average age in this study was 27 years, which was four years lower than those of previous publications from Nigeria^{1,9,14} There was no significant sex predilection however females outnumbered males in the early years but this trend was reversed in the later years (Fig 1). The ameloblastoma is a slow growing and painless tumor, therefore most of our patient could not determine the time onset of the disease condition.

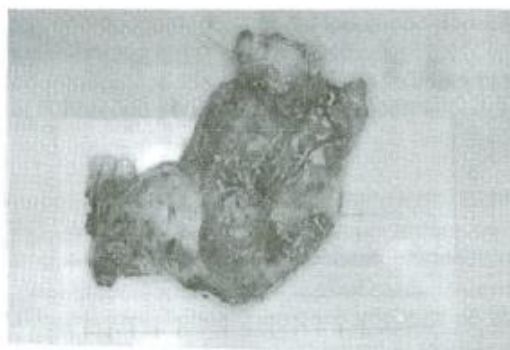


Fig 2: Post operative photograph of ameloblastoma of the mandible showing destruction from the symphyseal region to the ramus

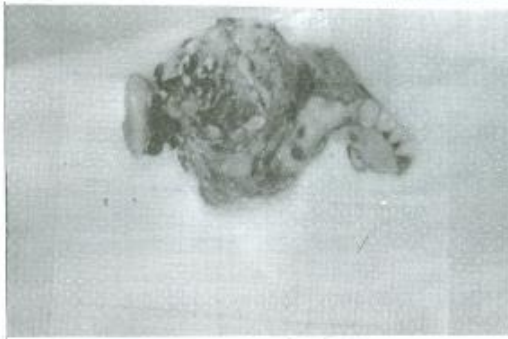


Fig. 3: Post operative photograph of ameloblastoma of the mandible showing the bucco-lingual expansion of the mandible

In contrast to an earlier report in mainly Southern Nigerians¹ where most of the lesions occurred in the symphyseal region of the mandible, majority of the cases in Ghana involves the posterior segment. This is similar to the finding in Caucasians² and in Northern Nigerians^{4,13,14}. Maxillary ameloblastoma even though rare in Ghana, has been reported in Nigeria.^{9,13,14}



Fig. 4 X-ray of the mandible showing classic soap-bubble multilocular radiolucency. Note the presence of an impacted molar tooth.

There were signs of skin scarifications over the tumors indicating attempts made to drain the cystic contents during previous consultation with the herbalist and traditional healers. The delay in seeking proper medical treatment resulted in the tumour reaching astonishing sizes.(Fig. 2) This differs from

the experience in the developed countries where most of the tumours are discovered on routine panoramic radiographs. A differential diagnosis based on radiographic examination may present difficulties especially during the early stages of the disease when the tumour presents as a small unilocular radiolucent lesion in association with standing teeth.^{4,9,15,16} Most of the lesions in this study were in the advance stage and presented with the classic soap-bubble multilocular radiolucency at the time of diagnosis (Fig. 4).

In spite of the numerous studies and symposia, the treatment of ameloblastoma is far from being unanimously agreed upon.^{11,15} The treatment utilised in Ghana during this period was aimed at the total excision of the tumour (Figs.3&4) with adequate margin of surrounding normal bone as practiced in other part of the world^{13,9,16}. The other methods of treatments such as irrigation⁶ curettage, cryotherapy^{4,7} and radiotherapy^{17,18} which have been tried elsewhere for the management of ameloblastoma were not used by Maxillofacial Surgeons at the Korle-Bu Teaching Hospital in Ghana during the period under study. With the exception of the few patients who had reconstruction of the jaws with split rib or iliac crest grafts and supported by titanium plates (Table 2), majority of cases were not reconstructed. This could be attributed to the lack of the necessary manpower and the high cost of implants. Moreover, excess soft tissue folds resulting from the excision of these very large tumours fairly compensated for the underlying deformity. Kirschner wires were also used to maintain facial form but in a few patients the ends broke through the oral mucosa or the skin which necessitated their removal later. When inadequately excised the ameloblastoma has a high propensity to recur. The radical surgical technique in most of our cases reduced recurrence significantly. There were only two cases of recurrence during the 27year period, one of which occurred 20 years post operatively.

Malignant transformation of ameloblastoma although rare and controversial has been reported.^{15,16,17,19,20} No case of a malignant ameloblastoma nor malignantly transformed ameloblastoma were recorded during the period of study. In conclusion, ameloblastoma is a common jaw tumour in Ghana similar to that found in other parts of the world that requires further studies. As reported in other West African countries, reconstruction of the mandible after surgical excision was not carried out in most

cases. However, it is encouraging that reconstruction is being carried out to enhance a better quality of post operative care and rehabilitation of patients at the Korle-Bu Teaching Hospital.

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