MAXILLOFACIAL SURGERY

Myxoma of the Jaw Bones: Analysis of 27 Cases

S. O. Ajike, U. E. Amanyeiwe and E. O. Adekeye

Maxillofacial Unit, Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria

ABSTRACT

Twenty-seven patients with histologically confirmed cases of odontogenic myxoma of the jaws were managed in a 10-year period. They represent 8.5% of all odontogenic tumours seen during the period. There was a female preponderance with the female to male ratio of 2.4:1. The age range was 11-70 years with majority occurring in the 4th decade. No apparent site predilection was noted. The duration of symptoms before presentation was 2 months to 14 years (mean 2.3 years). All the patients presented with facial swellings. Radiologically, majority (63%) were multilocular. In 85.2% radical ablation was the treatment employed. The follow-up period was 1 to 13 years and a recurrent rate of 3.7% was noted. A treatment protocol is suggested *(Nig J Surg Res 2000;2:123-126)*

KEY WORDS: Jaws, odontogenic tumours, myxoma

Introduction

Odontogenic myxoma is a tumour of the jaws arising from the mesenchymal portion of the tooth germ.[1] It is a relatively rare tumour, accounting for about 6% all odontogenic tumours.[2] Most report are isolated case reports or small series. Previous reports from Nigeria[3-6] have analysed myxomas and odontogenic tumours as a group. This is a report of the experience with odontogenic myxoma in Kaduna, northern Nigeria.

Materials and Methods

In the period, 1985 - 1995, 27 cases of myxomas of the jaws were retrieved from the medical records of Oral and Maxillofacial Unit, Ahmadu Bello University Teaching Hospital, Kaduna. The records have been reviewed. In the same period, a total of 318 patients with odontogenic tumours of the jaws were managed.

Results

There were 19 (70%) females and 8 (30%) males, a ratio of 2.4:1, the sex and age distribution are illustrated in Figure 1. The age range was 11-70 years (mean 29.6) with a peak age in the 4th decade. The mean age for the females was 31.3 years and 25.8 years for males.

Presentation

The interval between the onset of the symptoms and presentation was 2 months to 14 years (mean 2.3 years). The average duration for males and females were 1.8 and 2.6 years respectively. All the patients presented with slow growing painless swellings. Twenty-six cases were firm in

Reprint requests to: Dr. S. O. Ajike, Maxillofacial Unit, Ahmadu Bello University Teaching Hospital, P. M. B. 2016, Kaduna, Nigeria

consistency and were covered with slightly pale oral mucosa while one was ulcerated. Ocular symptoms in the maxillary cases were proptosis and blindness. Two cases of maxillary tumours involved the sinus and part of the zygoma with destruction of the orbital floor. In one of these, there was also involvement of the orbit and ethmoidal sinus. Features related to teeth included, toothache 26, loosening 5, displacement 14 and exfoliation 13.

Site

There were 14 (52%) mandibular and 13 (48%) maxillary lesions, a ratio of 1.08: 1. Majority, 24 (89%) were located in the premolar-molar region of both jaws with extensions to the mandibular ascending ramus and the maxillary tuberosity. Table 1 shows the specific sites of the tumours.

Radiology

Eighteen (10 mandibular and 8 maxillary lesions) of the 27 cases had their radiological appearances recorded. The mandibular lesions presented as radiolucent lesions with appearances as soap bubble 2, tennis racket 2,and honey-comb one while the remaining 5 were simply described as multilocular. For maxillary lesions, 6 of the 8 were radio-opaque, while the remaining 2 (premaxillary lesions) were multilocular.

Treatment

Of the 27 patients, 26 (96%) had surgical intervention. One patient declined treatment. The various surgical procedures employed were curettage 3, excision (0.5mm from apparent normal bony margin) 9, resection (1cm of apparent normal bony margin) 5, resection with disarticulation 3 (2, hemi-mandibulectomies and 1 subtotal mandibulectomy), excision of tumour with dento-alveolar segment and preservation of the mandibular lower boarder (1.5cm to 2cm of apparent normal bony margin) 4 and maxillectomy 2.

Follow-up

The follow-up of the 26 cases treated ranged from 1 year to 13 years with a mean of 5 years. Recurrence was observed in one patient with maxillary tumours 3 years post-operatively. This represents 3.7% of total cases and 3.8% of operated cases.

Discussion

Myxomas of the jaws are rare, representing 3 - 8% of odontogenic tumours and cysts.[2-4,7] In this report the 27 myxomas represents 8.5% of total odontogenic tumours seen during the period.. Comparing this tumour with ameloblastoma, Regezi et al[7] and Slootweg and Wittkampt [8] documented a ratio of myxoma to ameloblastoma of 3:11 and 3:20 respectively. In our series this ratio was 1:8. The high figure in this study may probably be as a result of exclusion of cysts.

An age range of 11 to 70 years in this study compares with White et al's [9] range of 11 to 62. The mean age at diagnosis is in accordance with the reports of Zimmerman et al[10] and Ghosh et al.[11] This present series shows that the males were afflicted at an earlier age than the female counterparts. With regards to gender, most of the reports show female predilection,[7,12-15] although some reports show an equal gender distribution.[10,16,17] In the present report, females predominated, F:M of 2.4:1.

Most authors have recorded a mandibular excess[8,9,10,12,18] while other reports[7,10] favour an equal site distribution. In the present series there is an equal mandibular and maxillary prevalence. However, there is a general consensus that the tumour is predominantly located in the posterior region of the jaws.[9,10,19] Majority, 24 cases (89%) were posteriorly located in this study. Two cases of the maxillary tumours, involved the sinus and part of the zygoma with destruction of the orbital floor. In one of these, there were also involvement of the orbit and ethmoidal sinus. Zimmerman and Dahlin[10] have documented

Figure 1: Sex and Age Distribution of 27 Cases of Myxoma of the Jaw

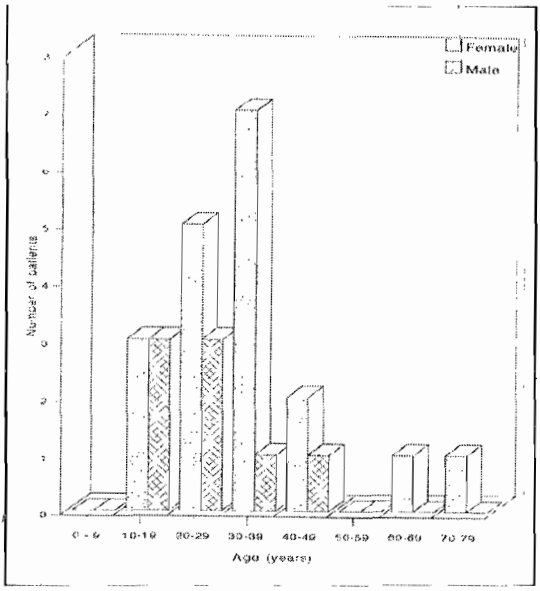

Table 1: Site Distribution of 27 Cases of Myxoma of the Jaws

Site of myxoma	No. (%)
Mandible	
Horizontal ramus (anterior segment)	1 (3.7)
Horizontal ramus (posterior segment	7 (25.9)
Horizontal ramus (anterior and posterior segments)	3 (11.1)
Horizontal (anterior and posterior segments) and vertical ramus	1 (3.7)
Horizontal (posterior segment) and vertical ramus	2 (7.4)
Maxilla	
Anterior maxilla	2 (7.4)
Posterior maxilla	4 (14.8)
Posterior maxilla and tuberosity	3 (11.1)
Anterior and posterior maxilla and tuberosity	2 (7.4)
Posterior maxilla, zygoma and antrum	1 (3.7)
Anterior and posterior maxilla, zygoma, antrum, ethmoid and nose	1 (3.7)
Total	27 (100)

4 cases with antro-orbital involvement.

Patients in this environment usually present late (mean 2.3 years), perhaps due to ignorance. This often causes the neglect of the tumours until they assume massive and grotesque proportions compared to their European counterparts.[15,20] Radiologically, the appearances are varied; the tumours usually present as unilocular,[13] tennis racket,[21] honey comb[1] and soap bubble[19] radiolucent appearance. In this study, the radiological presentation are similar to other series. Barros et al[16] reported root resorption, however, in our study root resorption was not encountered. Because of sinus involvement maxillary tumours may present as opacity. Radiographically, this tumour should be differentiated from other lesions, namely, ameloblastoma, odontogenic keratocysts, cysts, fibro-osseous lesions, central giant cell granuloma and calcifying epithelial odontogenic tumour.

Concerning the treatment of myxomas, opinion are diverse; some reports[12,17,19-22] favour conservative treatment, while other[15,17,20] advocate a more radical approach. In our study 3 cases had curettage, while the remaining 23 cases had radical treatment. The single recurrent case in this study was a product of curettage. High recurrent rates reported by other authors[16-18] were between 60% and 75% post-curettage. The reasons for this high figure are conservatism and biological behaviour of this tumour. In our experience this tumour infiltrates along the marrow spaces rather than expanding the bone.

The recurrence of 3.7% in this study was because of the treatment protocol employed viz:- excision (0.5mm from the apparent normal bony margin), resection with or without disarticulation (1cm of apparent normal bony margin), resection of the tumour with dento-alveolar segment and preservation of the lower border and maxillectomy (1.5cm to 2cm of apparent normal bony margin).

Although it is our opinion that

enucleation should be avoided, curettage with scarification of cavity with acrylic bur may be used for small mandibular lesions particularly in the anterior region and especially where the patient is educated and available for periodic reviews. It would appear that for extensive lesions a more radical approach is more appropriate. Regular periodic follow-up at 3 monthly intervals is also advocated.

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