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AMELOBLASTOMA-AN ANALYSIS OF 16 CASES

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ABSTRACT

Objective: To determine the incidence of ameloblastoma and effectiveness of the treatment modalities being used at our unit. **Design:** A retrospective study. **Place and duration of study:** Study was conducted at Department of Oral and Maxillofacial Surgery, Mayo Hospital Lahore from June 1999 to December 2002. **Patients and methods:** A total of 16 cases of ameloblastoma were treated and entered in the study. All of the cases were treated with excision of the growth and no other treatment modality was utilized. **Results:** Study included 6 males and 10 females. In 13 cases (77%) growth involved the mandible and in 3 cases (23%), maxilla was involved. The youngest patient in our series was a female 16years of age while the oldest one was a 70 years old lady. Eight cases (50%) belonged to 10-30years of age group while rest (50%) of the cases belonged to 31-70 years age group. There was recurrence of growth in two cases. **Conclusion:** Tumor is common in third decade of life and excision of the tumor is the treatment of choice.

Key words: Ameloblastoma. Maxillofacial tumors.

INTRODUCTION

Ameloblastoma, an odontogenic tumor, arises from remnants of the epithelium that is involved in the formation of teeth. It has been reported that the epithelium of the odontogenic cysts may also be transformed into ameloblastoma[1-4]. In other words, it is found only in mandible and maxilla. Malignant ameloblastoma has also been reported in the literature and may have multicentric presentation[5].

Mode of presentation varies from being asymptomatic, discovered on routine radiographic examination to asymptomatic jaw expansion, malocclusion, tooth movement and marked deformity[6]. These lesions have been treated with different treatment modalities like curettage, excision, radiotherapy, cryotherapy, cautry, laser, simple excision, radical excision, and chemotherapy. These tumors may present with huge growth and post-ablative reconstruction may pose yet another challenge to the maxillofacial reconstructive surgeon. In this paper experience regarding ameloblastoma and its management is presented along with review of the literature.

MATERIAL & METHODS

This study was carried out from June 1999 to December 2002 at The Department of Oral and Maxillofacial Surgery, Mayo Hospital Lahore. Only those patients, who

were diagnosed as cases of ameloblastoma on the basis of histopathological examination and later post-excisional histopathological examination confirmed the diagnosis, were entered into the study.

A proforma regarding complete biodata of the patient, presenting symptomatology, operative procedure and follow up was filled. We usually proceeded with orthopantomogram to know the extent of the lesion. Pre operative photographs were also taken as a routine. Any reconstructive procedure, if required, was carried out at the same time. All the cases were followed up at regular intervals.

RESULTS

This retrospective study was carried out for the patients who were operated in the department during last three and half years. A total of 16 cases of ameloblastoma were operated during this period, which included 6 males and 10 females. In 13 cases (77%), it involved the mandible and in rest of the cases i.e., 3 (23%), maxilla was involved. Right-sided mandible was involved in 7(54%) cases while in 5 (38%) cases left mandible was involved and in one case (8%) anterior portion of mandible was involved.

The youngest patient in our series was a female 16 years of age while the oldest one was a 70 years old lady. Eight cases i.e. 50% of the cases belonged to 10-30years of age group while rest 50% of the cases belonged to 31-70 years age group.

Table-I. Age Distribution

Age	Male	Female	Total
10-20	1	3	4
21-30	2	3	5
31-40	-	-	-
41-50	-	3	3
51-60	2	-	2
61-70	1	1	2
Total	6	10	16

In all the cases, reconstruction was carried out at the same stage. Bone graft was needed in 5 of the cases to reconstruct the bony defect in the mandible. In one of the cases, mandibular reconstruction plate was used for the bony defect.

A total of six flaps were utilized to meet the soft tissue defects both in maxilla and mandible. Pectoralis major myocutaneous flap was the most frequently used option, which was utilized in three cases. Latissimus dorsi myocutaneous flap was used in one case. Temporalis and sternocleidomastoid muscle flaps were used in one patient each.

Table-II. Involvement of bone

	Mandible				Maxilla		
	R	L	A	Total	R	L	Total
Male	2	3	-	5	-	1	1
Female	5	2	1	8	1	1	2
Total	7	5	1	13	1	2	3

R (Right), L (Left), A (Anterior)

There was recurrence of growth in two cases. Both of the cases had growth in Maxilla.

DISCUSSION

The first detailed description of the tumor dates back 1879 by Falkson while Churchill coined the term ameloblastoma[7]. Lesion arises from odontogenic epithelium and for that reason is found in vicinity of upper and lower jaws. It is the most common of the epithelial odontogenic tumors, but it is still rare, as it is about 1% of the tumors and cysts arising in the jaws. It shows no sex or racial preference[6]. In present series, however, male to female ratio was 6:10 showing a slight female dominance.

Tumor may occur at any age but peak incidence noted previously was in fourth decade[8,9]. In our present series the peak incidence was noted in second and third decade. The youngest patient in our series was a female 16 years of age and the oldest being 70 year female.

We also agree with the finding that it occurs in the mandible in 80% of the patients and 70% of these arise from the molar-ramus area[6]. In our series of 16 patients, 13 cases (77%) had tumor in mandible and only 3 cases (23%) had growth coming from maxilla.

We also confirm the previous finding that ameloblastoma in maxilla occurs in an older age group and have a poorer prognosis possibly due to earlier spread into extraosseous soft tissues[10-12]. In our series, three patients having growth in the maxilla were in age range of 40-55 years and also only one case in which growth recurred belonged to this sub-group.

Typically lesion grows slowly without giving rise to any symptoms and that is why some of the patients present very late. This is particularly a problem in less developed countries[13]. We are also of the same opinion as 12 of our patients presented with mere complaint of asymptomatic swelling in the region. Only four had some other complaints. In all four of the cases there was ulceration and two cases had loss of teeth as well.

A variety of treatment modalities have been tried including local currettage, cryotherapy, cautry, laser, simple excision, radical excision, radiotherapy and chemotherapy. Generally surgical approach is accepted as treatment of choice. Sehdev and others quote a 90% recurrence rate for mandibular lesions following treatment by curettage, 20% recurrence after segmental resection, and 20% recurrence after salvage of previously curetted lesion by segmental or hemimandibulectomy[14]. In maxilla, Sehdev reported 100% recurrence in 11 patients treated by curettage. Yet in other studies high recurrence rates were observed in patients with ameloblastoma treated with curettage or enucleation; in the multilocular type than in unilocular type, and in patients above 20 years[15-17].

As majority of the patients present late, lesion grows to enormous size and post ablative defect demands reconstruction of both soft tissue and bone involved. In 5 of the patients iliac bone graft was needed to reconstruct bony defect in mandible. Also 5 cases needed reconstruction of the soft tissue defect with various flaps. In three of these cases pectoralis major myocutaneous flap was utilized to provide bulk to the area and lining of the oral cavity. In one case myocutaneous latissimus dorsi flap did this job while in one case sternocleidomastoid muscle was used to fill the soft tissue defect. In one case mandibular reconstruction plate was utilized to meet the bony defect. It can be concluded that while managing these huge tumors, one has to keep the various reconstructive modalities in mind as well.

CONCLUSION

Ameloblastoma is an uncommon tumor of odontogenic origin. It can effect any age but is common in second and third decade. It effects mandible more as compared to maxilla. Mandibular ameloblastomas occur at a younger age and have good prognosis as compared to maxillary ones.

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