ORIGINAL RESEARCH

Clinicopathologic analysis of Odontogenic Tumours- A retrospective study

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Received: 13 February, 2016 Accepted: 16 March, 2016

ABSTRACT
Background: Odontogenic tumors (OT) are widespread, complicated lesions in the gnathic bones that pose a difficulty for diagnosis and treatment. The present study was conducted to assess odontogenic tumours. **Materials & Methods:** 80 cases of odontogenic tumours of both genders were selected. Parameters tumor site, symptomatology (pain/swelling), tumor size, radiographic findings and histopathologic type was recorded. **Results:** out of 80 patients, males were 52 and females were 28. Tumors in ant maxilla, ant mand, post. max and Post mand were Ameloblastoma in 2, 3, 4 and 21, AOT was 6, 2, 1 and 1, CEOT was 0, 1, 2, 4, odontogenic fibroma was 3, 2, 1 and 2, cementoblastoma was 2, 1, 1, and 2, odontoma was 5, 2, 1 and 1 and ameoloblastic Ca. in 3, 2, 3 and 2 respectively. **Conclusion:** The maximum cases were of ameloblastoma. The most common site was posterior mandible.

Keywords: cementoblastoma, Odontogenic tumors, mandible

INTRODUCTION
Odontogenic tumors (OT) are widespread, complicated lesions in the gnathic bones that pose a difficulty for diagnosis and treatment. These are tumors that originate from the epithelium and/or ectomesenchymal tissues that give rise to teeth.[1] Most of these lesions are real neoplasms, and a small number may occasionally behave malignantly. Other lesions, known as hamartomas, may appear as tumor-like abnormalities. Additionally, research has demonstrated that there are regional differences in the frequency and distribution of these entities.[2]

The current classification states that odontogenic epithelium is the source of epithelial OT, independent of ectomesenchyme participation. [3]This group includes a variety of tumors, the most significant of which is ameloblastoma because of its increased incidence and aggressive clinical characteristics. On the other hand, these tumors are categorized as mixed odontogenic tumors when they involve both odontogenic epithelium and ectomesenchyme. Consequently, the development of mineralized dental tissue may or may not be shown by these.[4] Among this group, odontomas are more prevalent and are regarded as developmental alterations rather than actual neoplasms. Together with this, there are also ectomesenchymal OTs, which are made up of ectomesenchyme components. Among these tumors, odontogenic myxoma is one of the most prevalent types.[5]The present study was conducted to assess odontogenic tumours.

MATERIALS & METHODS
The present study was conducted on 80 cases of odontogenic tumours of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Parameters tumor site, symptomatology (pain/swelling), tumor size, radiographic findings and histopathologic type was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 80		
Gender	**Male**	**Female**
Number	52	28

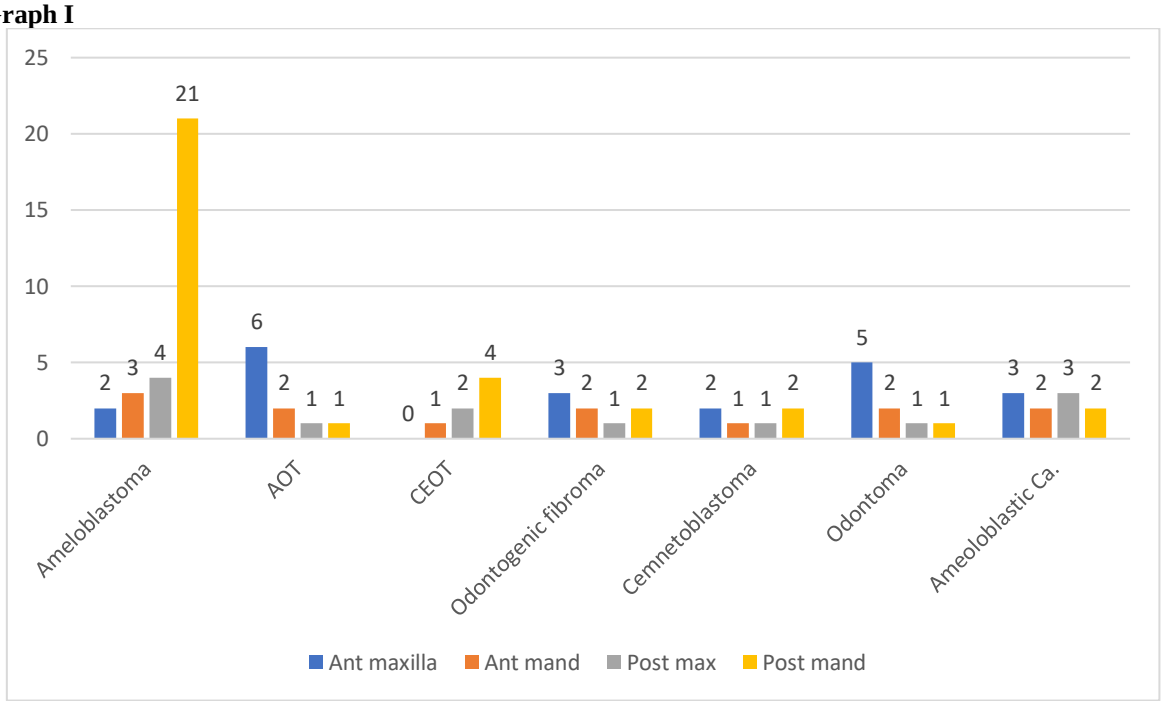
Table I shows that out of 80 patients, males were 52 and females were 28.

Table II Assessment of tumors

Tumors	Ant maxilla	Ant mand	Post max	Post mand	Total	P value
Ameloblastoma	2	3	4	21	30	0.02
AOT	6	2	1	1	10	
CEOT	0	1	2	4	7	
Odontogenic fibroma	3	2	1	2	8	
Cemnetoblastoma	2	1	1	2	6	
Odontoma	5	2	1	1	9	
Ameloblastic Ca.	3	2	3	2	10	

Table II, graph I shows that tumors in ant maxilla, ant mand, post. max and Post mand were Ameloblastoma in 2, 3, 4 and 21, AOT was 6, 2, 1 and 1, CEOT was 0, 1, 2, 4, odontogenic fibroma was 3, 2, 1 and 2, cementoblastoma was 2, 1, 1, and 2, odontoma was 5, 2, 1 and 1 and ameloblastic Ca. in 3, 2, 3 and 2 respectively. The difference was significant (P< 0.05).

Graph I



DISCUSSION

The maxilla and the mandible are the sites of many cystic and neoplastic conditions which could be either benign or malignant. Swellings in the orofacial region are unique due to the obvious cosmetic defect and functional impairment of the anatomically related aero-digestive tract.[6,7] Orofacial tumors are known to exhibit geographic variations in prevalence and pattern due to cultural, social, occupational or climatic factors.[8,9,10]The present study was conducted to assess odontogenic tumours.

We found that out of 80 patients, males were 52 and females were 28. Ebenezer er al[11]analyzed the relative frequency of different types of odontogenic tumors based on the WHO 2005 histopathological classification of odontogenic tumours and to compare the data with published literature.Data collected from seven different hospitals in the same region of the city (south Chennai) were systematically searched for all cases of odontogenic tumors operated on between the years 2005–2010. The histopathology slides of the tumours were reanalyzed for cross verification. The data were also checked for duplication and for recurrence cases. Age, gender and site prevalence were also studied.Of the 107 cases collected, with full records, 60 (56%) were odontomas. The second most common was ameloblastoma (14%), followed by Keratocystic odontogenic tumour (13%). The rest of the tumours formed 17% of the total.

We found that tumors in ant maxilla, ant mand, post. max and Post mand were Ameloblastoma in 2, 3, 4 and 21, AOT was 6, 2, 1 and 1, CEOT was 0, 1, 2, 4, odontogenic fibroma was 3, 2, 1 and 2, cementoblastomawas 2, 1, 1, and 2, odontoma was 5, 2, 1 and 1 and ameoloblastic Ca. in 3, 2, 3 and 2 respectively. Bassey GO et al[12] in their study a total o:f 146 patients, aged 5–70 years (mean 30.5± 12.9) were seen over the period of study. There were 96 males (65.8%) and 50 females (34.2%) giving a male to female ratio of almost 2:1. Benign tumors accounted for 124, 86.3% and malignant tumors (22, 13.7%). Ameloblastoma was the most prevalent benign tumor observed (53, 36.3%) while squamous cell carcinoma was the most common malignant tumor. The peak age of ameloblastoma was the fourth decade and squamous cell carcinomas the sixth and seventh decades of life. Jaw swellings were the most common presentation (98, 67.1%), followed by pain (23, 15.9). The duration of symptoms on presentation ranged from 1 to 96 months (mean 23.32 ±15.72) and this was not different for malignant or benign tumors (P=0.886).

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that maximum cases were of ameloblastoma. The most common site was posterior mandible.

REFERENCES

1. Mosqueda-Taylor A. New findings and controversies in odontogenic tumors. Med Oral Patol Oral Cir Bucal. 2008;13:E555–8.
2. Jing W, Xuan M, Lin Y, Wu L, Liu L, Zheng X. Odontogenic tumours: a retrospective study of 1642 cases in a Chinese population. Int J Oral Maxillofac Surg. 2007;36:20–5.
3. Luo HY, Li TJ. Odontogenic tumors: A study of 1309 cases in a Chinese population. Oral Oncology. 2009;45:706–11.
4. Osterne RLV, Brito RGM, Alves APNN, Cavalcante RB, Sousa FB. Odontogenic tumors: a 5-year retrospective study in a Brazilian population and analysis of 3406 cases reported in the literature. Oral Surg Oral Med Oral Pathol Oral RadiolEndod. 2011;111:474–81.
5. Costa DOP, Maurício AS, Faria PAS, Silva LE, Mosqueda-Taylor A, Lourenço SQC. Odontogenic tumors: A retrospective study of four Brazilian diagnostic pathology centers. Med Oral Patol Oral Cir Bucal. 2012;17:e389–94.
6. Chrysomali E, Leventis M, Titsinides S, Kyriakopoulos V, Sklavounou A. Odontogenic Tumors. J Craniofac Surg. 2013;24:1521–5.
7. Koivisto T, Bowles WR, Rohrer M. Frequency and Distribution of Radiolucent Jaw Lesions: A Retrospective Analysis of 9,723 Cases. J Endod. 2012;38:729–32.
8. Elarbi M, El-Gehani R, Subhashraj K, Orafi M. Orofacial tumors in Libyan children and adolescents. A descriptive study of 213 cases. Int J PediatrOtorhinolaryngol. 2009;73:237–42.
9. Mamabolo M, Noffke C, Raubenheimer E. Odontogenic tumours manifesting in the first two decades of life in a rural African population sample: a 26 years retrospective analysis. Dentomaxillofacial Radiology. 2011;40:331–7.
10. Tawfik MA, Zyada MM. Odontogenic tumors in Dakahlia, Egypt: analysis of 82 cases. Oral Surg Oral Med Oral Pathol Oral RadiolEndod. 2010;109:67–73.
11. Ebenezer V, Ramalingam B. A cross-sectional survey of prevalence of odontogenic tumours. J Maxillofac Oral Surg. 2010;9:369–74.
12. Bassey GO, Osunde OD, Anyanechi CE. Maxillofacial tumors and tumor-like lesions in a Nigerian teaching hospital: an eleven year retrospective analysis. Afr Health Sci. 2014;14:56–63.