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A Retrospective Clinicopathological Study of Odontogenic Cyst and Tumors: An Institute-Based Study at Pondicherry

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Abstract

Objectives: The present study aims to evaluate the demographic, clinical, and radiological presentation of odontogenic cysts and tumors.

Material and Methods: A retrospective study was conducted at Mahatma Gandhi Postgraduate Institute of Dental Sciences, Pondicherry (MGPGIDS), collecting data on histopathologically diagnosed cases of odontogenic cysts and tumors from January 2000 to December 2022. The data concerning the incidence of odontogenic cysts and tumors, age, gender, clinical presentation, anatomic location, and radiographic findings were retrieved from the Department of Oral and Maxillofacial Pathology records.

Results: Among a total of 3,627 biopsies, 432 (11.9%) were the odontogenic cysts (OC) and 86 (2.37%) were the odontogenic tumors (OT). Among 432 cases of odontogenic cysts, 11 cases were excluded because of a lack of adequate data, and the remaining 421 cases (11.6%) were included in the study. The mean age of patients having an odontogenic cyst was 31 years and having an odontogenic tumor was 35.6 years, the mandible was the most common site of occurrence and the swelling was the most common clinical presentation. The common radiographic presentation of the

odontogenic cyst and odontogenic tumors was unilocular and multilocular radiolucency respectively.

Conclusions: The present study assessed the demographic and clinicopathological characteristics of odontogenic cysts and tumors for 23 years. Our findings indicated that odontogenic cysts occurred more frequently than odontogenic tumors. Radicular cysts and ameloblastoma were the most common odontogenic cysts and tumors.

Keywords: Odontogenic cysts, odontogenic tumors, radicular cysts, ameloblastoma, incidence.

Introduction

The Odontogenic cysts and tumors of the jaws constitute a diverse group of lesions. This diversity reflects the intricate evolution of the dental structures because each of these lesions results from a deviation from the normal pattern of odontogenesis [1]. These lesions are derived from the epithelial and/or ectomesenchymal odontogenic apparatus. Therefore, they are found exclusively in the mandible and the maxilla [18]. A detailed review of clinical, radiographic, and histological data is necessary for the diagnosis of odontogenic cysts (OCs) and odontogenic tumors (OTs) [1].

When formulating a clinical differential diagnosis, it can be extremely valuable to know the common basic characteristics of the various odontogenic cysts and tumors, such as their age, location, and radiographic appearance. Few case studies have assessed and compared both lesions, although numerous odontogenic cysts and odontogenic tumor case series have been published globally [2]. These data are used to determine the frequency of odontogenic tumors and cysts in the general population as well as their geographic distribution, which may provide information on the lesions' etiology [4], as geographical regions and ethnic groups may have an impact on certain etiological factors [2]. Appropriate management and early diagnosis depend primarily on understanding these lesions' Clinico-pathologic characteristics.

The present study aims to evaluate the prevalence of odontogenic cysts and odontogenic tumors and to comprehend the demographic, clinical, and radiological presentation.

Objectives of the studies are 1) to collect the data of histopathologically diagnosed cases of odontogenic cysts and odontogenic tumors from the institute, 2) to analyze the data with the following parameters: age, gender, site, clinical presentation, and radiographic appearance.

Material and Methods

A retrospective study was carried out at Mahatma Gandhi Postgraduate Institute of Dental Sciences at Pondicherry by collecting the data of patients who have been histopathologically diagnosed with odontogenic cysts and odontogenic tumors between the years 2000 to 2022. The study was reviewed and approved by the institutional review board and ethical committee of MGPGIDS (No.417/MGPGIDS/IEC/2023/MDS/No.20-2023). Data were retrieved from the Department of Oral and Maxillofacial Pathology records. The following parameters were analyzed: prevalence of odontogenic cysts and tumors, age, gender, clinical presentation, anatomic location, and radiographic findings. Cases with insufficient demographical, clinical, and radiographical features were excluded from the study.

Results

From the total of 3627 cases, 432 (11.9%) were odontogenic cysts (OC), and 86 (2.37%) were odontogenic tumors (OT) (Table 1). Among the 432 cases of odontogenic cysts, 11 cases were excluded because of a lack of adequate data, remaining 421 cases (11.6%) were included in the study.

Age distribution of the odontogenic cysts and odontogenic tumors

The patients' age varied from 4 to 80 years with a mean of 31 years having odontogenic cysts and from 13 to 79 years with a mean age of 37 years having odontogenic tumors (Table 2).

Gender distribution of the odontogenic cysts and odontogenic tumors

Among 421 cases of odontogenic cysts, 252 (59.8%) were males and 169 (40.1%) were females, and among 86 cases of odontogenic tumors, 42 (48.8%) were males and 44(51.1%) were females. (Table 3)

Anatomic distribution and clinical presentation of the odontogenic cysts and odontogenic tumors

Among 421 cases of an odontogenic cyst, 223 (53%) were in the mandible, and 198 (47%) were in the maxilla with a ratio of 1.1:1. The predominant clinical presentation was swelling. Among odontogenic tumors, 69 (80%) were in the mandible and 17 (20%) in the maxilla with a ratio of 4.1:1, and the most common clinical presentation was swelling (Table 4).

Radiographic presentation of the odontogenic cysts and odontogenic tumors

The radiographic findings of odontogenic cysts showed varied presentations as well-defined radiolucency with sclerotic border, without sclerotic border, with ill-defined border, associated with or without root resorption, unilocular radiolucency, multilocular radiolucency, associated with impacted tooth, with expansion of cortical plates and mixed radiolucency and radio-opacity (Table 5).

The radiographic findings of odontogenic tumors varied from multilocular radiolucency, multilocular radiolucency associated with impacted tooth, unilocular radiolucency, mixed radiolucency and radio-opacity, and radiolucency associated with or without root resorption. (Table 6)

Discussion

This study examined the prevalence of odontogenic cysts and odontogenic tumors from the year 2000 to 2022 of a total of 23 years from the Department of Oral and Maxillofacial Pathology records, MGPGIDS, Pondicherry which is a tertiary center located in southern India. Patients visiting this institute are from Pondicherry, Tamil Nadu (districts - Villupuram, Cuddalore, Tiruvannamalai), Kerala, West Bengal, Andra Pradesh etc. Izgi, et al.[2] studied the incidence of odontogenic cysts and odontogenic tumors in the Department of Oral and Maxillofacial Surgery in Ankara, Turkey, Lo Muzio et al., [3] in the Pathology Department of "Centro Hos pitalar do Porto" (CHP), Portugal Ramachandra, et al., [1] in Department of Oral and Maxillofacial Pathology, Andra Pradesh, Daley et al., [4] University of Western Ontario, London, Canada, Baghaei F et al., [5] University of Medical Sciences of Hamadan, Iran, and Aroquiadasse, et al., [9] from the department of oral medicine and radiology and oral pathology in a dental college and hospital, in Puducherry (India).

The incidence of odontogenic cysts alone was studied by Villasis-Sarmiento L. et al., [7] from the Histopathological Diagnosis Service, at the Graduate and Research Division, Dental School, National Autonomous University, Mexico, Mohammed J et al., [8] from the Oral and Maxillofacial Pathology, department of the Faculty of Dentistry affiliated to the Tehran University of Medical Sciences, Iran, Ochsenius et.al., [13] from Referral Institute for Oral Pathology (IREPO) in Chile, de Souza et al., [14] Oral Pathology Service at UFRN, Natal, Brazil.

The incidence of odontogenic tumors alone was studied by Ahire et al., [10] from the Department of Oral Pathology and Microbiology, Government Dental teaching institute, Maharashtra (India), Odtikoya O., [15] from the Department of Oral Biology and Oral Pathology of the Lagos University Teaching Hospital, Nigerian and Servato et al., [16] from the records of three oral pathology laboratories located in the state of Minas Gerais, Brazil.

For estimating the prevalence rate, data in above mentioned studies are collected from various departments, e.g., the data collected from the Department of Oral and Maxillofacial Surgery, Oral Medicine and Radiology, Oral and Maxillofacial Pathology, and Oral Pathology Laboratory. Data collected from different departments may influence the prevalence rate.

We studied the prevalence of odontogenic cysts and odontogenic tumors among the Indian population. Ramachandra, et al., [1] and Aroquiadasse, et al., [9] studied the Indian population from Andra Pradesh and Puducherry. Whereas Izgi et al., [2], Lo Muzio et al., [3] Daley et al., [4], and Baghaei F., et al studied the incidence of odontogenic cysts and odontogenic tumors among Turkish, Portuguese, Canadian, and Hamadan populations, respectively.

The incidence of odontogenic cysts alone was studied by Villasis-Sarmiento L. et al., [7] among the Mexican population, Mohammed J et al., [8] among the Iranian population, Ochsenius et.al., [13] in Chile, de Souza et al., [14] among the Brazilian population. Ahire et al., [10] studied the incidence of odontogenic tumors alone among Maharashtra (India) populations, Odtikoya O., [15] in the Nigerian population, and Servato et al., [16] in the Brazil population.

A systematic review done by N.R. Johnson et al., [6] revealed that the duration of the study period for odontogenic cysts by various authors varied from 6 years to 51years among Mexico, France, Chile, Brazil, Iran, Kuwait, and the UK population, and the study period of odontogenic tumors varied from 4 years to 51 years among the people of Canada, Mexico, China, Chile, Nigeria, Turkey, India, Estonia, and Tanzania. The duration of the study period of our study is 23 years.

Ramachandra et al., [1] studied the incidence of odontogenic cysts and tumors among 1331 cases, Lo Muzio et al., [3] among 397 cases, Baghaei F., et al., [5] among 413 cases, Izgi, et al., [2] among 739 cases, Villasis-Sarmiento L. et al., [7] in 753 cases, Aroquiadasse, et al., [9] among 974 cases, Mohammed J et al., [8] among 1227 cases and Daley et al., [4] among 40,000 cases. We studied the prevalence of odontogenic cysts and odontogenic tumors among 3,627 cases. Ochsenius et.al., [13] studied the incidence of odontogenic cysts alone among 2,944 cases, de Souza et al., [14] among 9216 cases, and Tororici et al., [12] among 12,197 cases. Ahire, et al., [10] studied the incidence of odontogenic tumors alone among 250 cases and Odtikoya O., [15] among 289 cases.

In our study, the prevalence of odontogenic cysts among the total number of biopsies received was 11.6% (Table 1), similar to the study conducted by de Souza et al., Tororici et al., and Ochsenius et.al where the incidence was 11%, 10.4%, and 10% respectively. Whereas a higher incidence of 14.4% was found in the study conducted by Mohammed J et.al.

In our study, among the total of 3,627 biopsies, the number of odontogenic cysts was 432 cases. A systematic review done by N.R. Johnson et al., [6] revealed that the total number of odontogenic cysts studied by various authors from different geographic

locations was 304, 385, 680, 695, 856, 1227, 1273, 2812, 2944, and 7121 at Mexico, Kuwait, Brazil, France, Mexico, Iran, Italy, Brazil, Chile, and the UK respectively.

In our study, the age of patients having odontogenic cysts varied from 4 to 80 years, and predominant cases occurred during the 2nd to 4th decade of life (Table 2), similar to the findings of Villasis-Sarmiento L. et al., [7]. Whereas Izgi et al., [2] found that predominantly odontogenic cysts occurred during the 5th decade of life. The mean age of our cases having odontogenic cysts was 31 years, similar to the study done by de Souza et al., (31years) [14], Lo Muzio et al., (36years) [3], and Baghaei et al., (27years) [5]. Disagreement with our study findings is noticed in a study conducted by Ramachandra et al., [1]. They found that patient's ages ranged between 12 and 69 years with a mean age of 41.5 years.

The prevalence of odontogenic cysts was slightly higher in males than females, with a ratio of 1.5:1 (Table 3). Similar findings were found in studies done by Ramachandra et al., [1] Izgi et al., [2] Baghaei et al., [5], Aroquiadasse, et al., [9], Tororici et al., [12] with the ratio of 1.3:1, 1.38:1, 1.86:1, 1.4:1 and 1.4:1 respectively. The incidence of odontogenic cysts studied by de Souza et al., [14] was found slightly lesser in females than in males with a ratio of 0.78:1.

In our study, odontogenic cysts were found slightly higher in the mandible than in the maxilla with a ratio of 1.8:1(Table 4). Similar results were found in the survey done by Ramachandra et al., [1] and Izgi et al., [2], and disagreement was noticed in Ochsenius et al., [13], de Souza et al., [14], and Baghaei et al., [5].

The most common clinical presentation in the odontogenic cysts was swelling which is similar to the findings of Lo Muzio et al., [3].

In our study, most odontogenic cysts appeared as unilocular radiolucent lesions i.e.,78% (Table 5), similar to the study done by Lo Muzio et al., (96%) [3]. Further analyses of unilocular radiolucency with or without a sclerotic border were not possible because of the insufficient description of the radiographic features of the lesion. 13% of odontogenic cysts appeared as a multilocular radiolucent lesion and one case appeared as a mixed radiolucent and radiopaque lesion.

The most common odontogenic cyst found in our study was a radicular cyst (46%) followed by a dentigerous cyst (31%) and an odontogenic keratocyst (18%) (Table 1). Our findings are closely similar to studies done by Izgi et al., [2], Daley et al., [4], and Villasis-Sarmiento L. et al., [7] where the incidence of radicular cyst is 49.25%, 65.1%, and 54.1%, and a dentigerous cyst is 22.7%, 24.08%, and 41% respectively. The incidence of odontogenic keratocyst of 13.7%, and 4.88% was found by Izgi et al. and Daley et al., respectively. Whereas studies were done by Ramachandra et al., [1], Butt et al., [11], and Baghaei et al., [5], revealed that the most common cyst was a dentigerous cyst of 42.18%, 31.4%, and 27.2%, followed by radicular cyst with the percentage of 33.59%, 22% and 18.6% respectively. The incidence of odontogenic keratocyst of 22.65% and 18.6% were found by Ramachandra et al., [1] and Baghaei et al., [5] respectively. Radicular cyst is the most common type of jaw cyst because it develops as a result of a series of events that occur after dental caries or trauma to a tooth. It occurs as a consequence of bacterial infection and pulpal necrosis which leads to inflammatory stimulation of the epithelial cell rests of Malassez along the periodontal ligament area of the tooth [18]. Radicular cyst incidence may decrease following dental caries prevention, early detection, oral

health care strategies, and taking safety measures while driving and playing sports.

We studied the prevalence of odontogenic tumors among 3,627 cases. Ahire, et al., studied the incidence of odontogenic tumors alone among 250 cases, Odtikoya O., [15] among 289 cases, and Servato et al., [16] among 52,083 cases.

In our study, the prevalence of odontogenic tumors among the total number of biopsies received was 2.37%. Whereas a higher incidence of 5.7%, 7.14%, 19% and was found in the study conducted by Ramachandra, et al., [1], Ahire, et al., [10], and Odtikoya O., [15] respectively.

In our study, among a total of 3,627 biopsies, the number of odontogenic tumors was 86 cases. A systematic review done by N.R. Johnson et al., [6] revealed that the total number of odontogenic tumors studied by various authors from different geographic locations was 75,116, 250, 318, 319, 340, 349, 362, 445, 527, 759, and 1088 in Estonia, Tanzania, India, Nigeria, Brazil, Nigeria, Chile, Canada, Turkey, China, and USA respectively.

In our study, the age of patients having odontogenic tumors varied from 13 to 79 years (Table 2) whereas study done by Odtikoya O., [15], Ahire, et al., [10], and Jing et al., the age range varied from 2 to 82 years, 5 to 98 years and 3 to 84 years respectively. The majority of cases occurred during the fourth decade of life, whereas a study done by Aroquiadasse et al., [9], Ahire, et al., [10], and Servato et al., [16] found the occurrence of odontogenic tumors in the second to fifth decade of the life. The mean age of our cases was 35.6 years (Table 2), similar to the findings of Jing et al., (32.1 years) [17] and Ramachandra, et al., (39.5 years) [1].

The prevalence of odontogenic tumors in our study was slightly higher in females than in males (Table 3). Similar findings were found in studies done by Servato et al. [16] and Ramachandra, et al., [1]. The incidence of odontogenic tumors studied by Ahire et al., [10] and Jing et.al., [17] was found slightly lesser in females than in males with a ratio of 1.4:1 and 1.9:1 respectively.

In our study, odontogenic tumors were found slightly more in the mandible than in the maxilla with a ratio of 1.4:1 (Table 4). Similar results were found in the study done by Ramachandra, et al., [1], Odtikoya O., [15], Ahire, et al., [10], and Jing et.al., [17] whereas almost equal distribution was found in the maxilla and mandible by Servato et al., [16].

The most common clinical presentation in odontogenic tumors was swelling which was similar to the findings of Lo Muzio et al., [3].

In our study, most odontogenic tumors appeared as multilocular radiolucent lesions i.e.,52% (Table 6), similar to the study done by Lo Muzio et al., [3]. 15% of odontogenic tumors appeared as a mixed radiolucent and radiopaque lesion,12.7% of odontogenic tumors appeared as a unilocular radiolucent lesion and 5% appeared as a radiopaque lesion.

The most common odontogenic tumor was ameloblastoma (57%) followed by calcifying epithelial odontogenic tumor (16%) and adenomatoid odontogenic tumor (9%) (Table 1). Similar results were observed in studies conducted by Baghaei et al., [5] and Ahire et al., [10] with a percentage of ameloblastoma of 64% and 30.8% respectively. The incidence of Calcifying epithelial odontogenic tumor is 1.6% in the study conducted by Ahire et al., [10]. Baghaei et al., [5] and Ahire et al., [10] found the incidence of adenomatoid odontogenic tumors as 9% and 14% respectively. However, research conducted by Izgi et al. and Farias et al. showed that odontoma was the most prevalent odontogenic tumor.

Tables

Table 1: Odontogenic cysts and Odontogenic tumor prevalence

Odontogenic Cysts (421 cases)	Prevalence 11.6%	Odontogenic tumors (86 cases)	Prevalence 2.37%
Radicular cyst (193)	46%	Ameloblastoma (49)	57%
Dentigerous cyst (129)	31%	Adenomatoid Odontogenic Tumor (5)	6%
Odontogenic keratocyst (75)	18%	Calcifying Epithelial Odontogenic Tumor (14)	16%
Calcifying odontogenic cyst (13)	3%	Odontoma (4)	5%
Lateral periodontal cyst (5)	1%	Unicystic Ameloblastoma (5)	6%
Residual cyst (4)	1%	Ameloblastic Carcinoma (3)	3%
Orthokeratinised odontogenic cyst (2)	0.4%	Ameloblastic Fibroma (2)	2cases
		Squamous Odontogenic Tumor (1)	1 case
		Dentinogenic Ghost Cell Tumor (1)	1case
		Odontogenic Myxoma (2)	2cases

Table 2: Age distribution of the odontogenic cysts and odontogenic tumors

Odontogenic cysts	Age range	Mean age	Common decade
Radicular cyst	4 – 80 yrs	31.2 yrs	3rd decade
Dentigerous cyst	6 - 74 yrs	30.2 yrs	2nd decade
Odontogenic keratocyst	8 - 72 yrs	33.1 yrs	3rd decade
Calcifying odontogenic cyst	17- 15 yrs	37.9 yrs	2nd &5th decade
Lateral periodontal cyst	18-42 yrs	31.6 yrs	4th decade
Residual cyst	24 -80 yrs	51.5 yrs	--
Orthokeratinised odontogenic cyst	-	--	----
Odontogenic tumor	**Age range**	**Mean age**	**Common decade**
Ameloblastoma	19-79 yrs	37.3 yrs	4th decade
Adenomatoid odontogenic tumor	14-30 yrs	22.4 yrs	3rd decade
Calcifying epithelial odontogenic tumor	19-61 yrs	36.4 yrs	4th decade
Odontoma	19-50 yrs	32.75 yrs	--
Unicystic ameloblastoma	16 -55 yrs	32.6 yrs	2nd & 4th decade
Ameloblastic carcinoma (3 cases)	32-57 &65 yrs	-----	----
Ameloblastic fibroma (1 case)	15 yrs	-----	-----
Squamous odontogenic tumor (1 case)	60 yrs	-----	-----
Dentinogenic ghost cell tumor (1 case)	22 yrs	-----	-----
Odontogenic myxoma (2 cases)	27 yrs	-----	-----

Table 3: Gender distribution of the odontogenic cysts and odontogenic tumors

Odontogenic cysts	Gender Predominance	Ratio
Radicular cyst	Male >Female	1.3:1
Dentigerous cyst	Male >Female	1.7:1
Odontogenic keratocyst	Male >Female	1.7:1
Calcifying odontogenic cyst	Female >Male	1.6:1
Lateral periodontal cyst	Female >Male	1.5:1
Residual cyst	Male >Female	2:1
Orthokeratinised odontogenic cyst	Male = Female	-
Odontogenic tumor	**Gender Predominance**	**Ratio**
Ameloblastoma	Female >Male	1.2:1
Adenomatoid odontogenic tumor	Female >Male	4:1
Calcifying epithelial odontogenic tumor	Male = Female	1:1
Odontoma	Female >Male	3:1
Unicystic ameloblastoma	Male >Female	5:0
Ameloblastic carcinoma	Male >Female	3:0
Ameloblastic fibroma	Male	-
Squamous odontogenic tumor	Female	-
Dentinogenic ghost cell tumor	Male	-
Odontogenic myxoma	Female	-

Table 4: Anatomic distribution and clinical presentation of the odontogenic cysts and odontogenic tumors

Odontogenic cysts	Predominant Clinical Presentation	Anatomic distribution	Ratio
Radicular cyst	Swelling	Maxilla>mandible	2:1
Dentigerous cyst	Swelling	Mandible>maxilla	1.8:1
Odontogenic keratocyst	Swelling	Mandible>maxilla	3.9:1
Calcifying odontogenic cyst	Swelling	Mandible>maxilla	1.6:1
Lateral periodontal cyst	Swelling	Mandible>maxilla	1.5:1
Residual cyst	Swelling	Mandible>maxilla	3:1
Orthokeratinised odontogenic cyst	Swelling	Only 2 cases -both were in the mandible	---
Odontogenic tumor	**Predominant clinical presentation**	**Anatomic distribution**	**Ratio**
Ameloblastoma	Swelling	Mandible>maxilla	8.8:1
Adenomatoid odontogenic tumor	Swelling	Maxilla>mandible	5:1
Calcifying epithelial odontogenic tumor	Swelling	Mandible>maxilla	6:1
Odontoma	--	Maxilla>mandible	3:1
Unicystic ameloblastoma	Swelling	Mandible>maxilla	5:1
Ameloblastic carcinoma	--	Mandible>maxilla	3:1
Ameloblastic fibroma	Pain	Mandible	-
Squamous odontogenic tumor	Swelling	Maxilla	--
Dentinogenic ghost cell tumor	Pain &swelling	Mandible	---
Odontogenic myxoma	Swelling	Maxilla	----

Table 5: Radiographic presentation of the odontogenic cysts

Odontogenic cysts	Radiograph findings	Total no. of cases	%
Radicular cyst	Well defined periapical R/L	173	85
	R/Lwith sclerotic border	14	7
	R/L with ill-defined border	5	3
	Associated with root resorption	4	1
Dentigerous cyst	Unilocular R/Lwith impacted tooth	81	70
	Multilocular R/L	9	8
	Associated with root resorption	3	3
	Associated with expansion	5	4
	Periapical R/L-18	18	20
Odontogenic keratocyst	Multilocular	10	18
	Multilocular with an impacted tooth	7	12
	R/L associated with Impacted tooth	11	19
	R/L associated. with periapical and man body. ramus. angle region	21	37
	Unilocular R/L	4	7
	Associated with expansion	4	7
Calcifying odontogenic cyst	Multilocular R/L	2	7
	Peri coronal R/L	2	17
	Mixed R/o-R/L	1	8
	Well defined R/L	7	58
Lateral periodontal cyst	Well-defined pear-shaped R/L	3	60
	Multilocular R/L	1	20
	Ill-defined R/L	1	20
Residual cyst	Well defined	2	50
	Ill-defined	2	50
Orthokeratinised odontogenic cyst	Well-defined multilocular R/L	2	50

Table 6: Radiographic presentation of the odontogenic tumors

Odontogenic tumor	Radiograph findings	Total no. of cases	%
Ameloblastoma (49)	Multilocular R/L	17	35
	Multilocular R/L with an impacted tooth	5	10
	Mixed R/o- R/L	5	10
	Multilocular R/L with root resorption	13	27
	Periapical location	9	18
Adenomatoid odontogenic tumor (5)	Well-defined R/L with impacted tooth	3	60
	Well defined R/L	1	20
	Well-defined R/L with root resorption	1	20
Calcifying epithelial odontogenic tumor (14)	Mixed R/L & R/O	6	43
	Multilocular R/L	4	29
	Multilocular with impaction	2	14
	Unilocular	2	14
Odontoma (4)	R/O with an impacted tooth	3	75
	R/O mass attached to the root	1	25
Unicystic ameloblastoma (5)	Well defined unilocular R/L	3	60
	Multilocular R/L	1	20
	Ill-defined with root resorption	1	20
Ameloblastic carcinoma (3 cases)	Radiolucent lesion	3	100
Ameloblastic fibroma (2 case)	Mixed R/o-R/L with bicortical expansion	2	-
Squamous odontogenic tumor (1 case)	Mixed R/o-R/L	1	-
Dentinogenic ghost cell tumor (1 case)	Well-defined R/L lesion with corticated border	1	-
Odontogenic myxoma (2 cases)	Well-defined R/L lesion with buccal expansion	2	-

Conclusions

This institutional study provides demographic, clinical, and radiographic information on odontogenic cysts and odontogenic tumors in a group of people, who visited Mahatma Gandhi Postgraduate Institute of Dental Sciences in the past 23 years. Results showed that the odontogenic cysts were more common than the odontogenic tumors.

Among the odontogenic cysts, the radicular cyst was the most common, and among the odontogenic tumors, ameloblastoma.

It is found that odontogenic cysts and odontogenic tumors are reported in all parts of the world. Results from our study and studies reported in the literature indicate that odontogenic cysts occur at any age but most cases occur during the 2nd to 4th decades of life, males and females are affected with slight male predominance, and maxilla and mandible both are affected with a slight predilection to the mandible. In our study, unilocular radiolucency was the most common radiographic presentation.

Results from our study and studies reported in the literature indicate that odontogenic tumors occur at any age but most cases occur during the fourth decade of life, males and females are affected with slight female predominance, and maxilla and mandible both are affected with a slight predilection to the mandible. In our study, multilocular radiolucency was the most frequent radiographic appearance.

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