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Original Research

Prevalence of odontogenic cysts in a known population

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ABSTRACT:

Background: This study was conducted to assess the prevalence of odontogenic cysts in a known population. **Material and methods:** This study was conducted at DR Rajender Prasad Government Medical College, Kangra, Tanda, Himachal Pradesh. There were total 100 participants with intraoral lesions. The subjects were informed about the procedure and were asked for consent. The subjects were examined for odontogenic cysts and the factors associated with them. It was found that out of 100 subjects, 60 subjects had odontogenic cysts in their oral cavity. The subjects aged from 25-50 years. The mean of the subjects was 34.2 years. The subjects willing to participate in the study were included while those who were unwilling to participate in the study had been excluded. Statistical analysis had been conducted using SPSS software. **Results:** In this study of 60 subjects with odontogenic cysts, 35 subjects were males and 25 were females. The most common cyst was odontogenic keratocyst seen in 36 subjects, followed by dentigerous cyst observed in 11 subjects. Radicular cyst and residual cyst were evident in 8 and 5 subjects, respectively. **Conclusion:** The prevalence of occurrence of odontogenic cysts in this study was 60%. The most common cyst observed was odontogenic keratocyst, followed by dentigerous cyst.

Keywords: odontogenic cyst, radicular cyst, dentigerous cyst

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INTRODUCTION

Cysts are pathologic cavities filled with fluid, semisolid or gaseous material. Those cysts which develop from the remnants of the odontogenic apparatus within the jaws are known as odontogenic cysts (OCs). The WHO has broadly divided the OCs into developmental and inflammatory cysts based on their pathogenesis.

Inflammatory cysts are radicular cysts, residual cysts and paradental cysts, whereas dentigerous cyst, odontogenic keratocyst (OKC), calcifying OCs, gingival cysts of newborn and adults and glandular OCs are developmental in nature. These cysts may cause significant jaw swelling associated with pain and pus discharge. Sometimes they can result in significant jaw destruction without any obvious jaw swelling and may be discovered accidentally. Some of the developmental cysts show aggressive behavior and high recurrence rate which mandates regular follow-up.¹

Odontogenic cysts and tumors comprise an unusually sundry group of lesions. All these lesions originate by an aberration in the normal pattern of odontogenesis and thereby reflecting the complex development of oro-dental structures. Few lesions are not totally neoplastic but resultant of any disturbance/alteration in the normal development of tooth. Lesions such as cysts are also tumors only in the broadest sense of the word and do not represent true neoplasms.²

This study was conducted to assess the prevalence of odontogenic cysts in a known population.

MATERIAL AND METHODS

This study was conducted at DR Rajender Prasad Government Medical College, Kangra, Tanda, Himachal Pradesh. There were total 100 participants with intraoral lesions. The subjects were informed about the procedure and were asked for consent. The subjects were examined for odontogenic cysts and the factors associated with them. It was found that out of 100 subjects, 60 subjects had odontogenic cysts in

their oral cavity. The subjects aged from 25-50 years. The mean of the subjects was 34.2 years. The subjects willing to participate in the study were included while

those who were unwilling to participate in the study had been excluded. Statistical analysis had been conducted using SPSS software.

RESULTS

Table 1: Gender-wise distribution of subjects.

Gender	Number of subjects	Percentage
Males	35	58.3%
Females	25	41.7%
Total	60	100%

In this study of 60 subjects with odontogenic cysts, 35 subjects were males and 25 were females.

Table 2: Prevalence of odontogenic cysts.

Cysts	Number of subjects	Percentage
Odontogenic keratocyst	36	60%
Dentigerous cyst	11	18.3%
Radicular cyst	08	13.3%
Residual cyst	05	8.3%
Total	60	100%

Overall, 60 subjects had odontogenic cysts in their oral cavity. The most common cyst was odontogenic keratocyst seen in 36 subjects, followed by dentigerous cyst observed in 11 subjects. Radicular cyst and residual cyst were evident in 8 and 5 subjects, respectively.



Figure 1: Radiographic presentation of odontogenic keratocyst



Figure 2: Clinical presentation of odontogenic keratocyst



Figure 3: Clinical presentation of dentigerous cyst

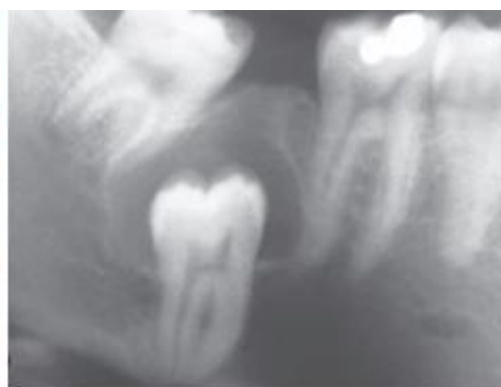


Figure 4: Radiographic presentation of dentigerous cyst

DISCUSSION

A cyst is defined as a pathologic cavity containing fluid, semifluid or gaseous contents that are not created by the accumulation of pus; frequently but not always, is lined by epithelium. Odontogenic cyst (OC)

is divided into two groups on the basis of their origin: developmental and inflammatory. OCs are unique in that they only affect the oral and maxillofacial region which are characterized by resorption of bone and develop from the components of the odontogenic

epithelium or its residuals which remain trapped within the gingival tissue or bone.³

Inflammatory cyst is associated with inflammation while developmental cyst are of unknown etiology.⁴ Radicular and dentigerous cysts are relatively common and can be easily diagnosed.⁵ Clinical and radiological presentations are almost similar for many of these cysts hence clinical misdiagnosis is possible. Some of these are known to have an aggressive behaviour and propensity to recur so correct diagnosis of these lesions is very essential.⁶

This study was conducted to assess the prevalence of odontogenic cysts in a known population.

In this study of 60 subjects with odontogenic cysts, 35 subjects were males and 25 were females. The most common cyst was odontogenic keratocyst seen in 36 subjects, followed by dentigerous cyst observed in 11 subjects. Radicular cyst and residual cyst were evident in 8 and 5 subjects, respectively.

Kambalimath DH et al (2014)¹ determined the prevalence of odontogenic cyst in an Indian population and compared it with various reports from the other geographic areas of the world. The files on odontogenic jaw cysts treated between 2001 and 2011 at the oral and maxillofacial surgery unit were retrieved retrospectively. Patient's demographic information mainly age, sex and location of the lesion was recorded and analyzed using descriptive statistics. The diagnosis of odontogenic cyst accounted in 150 cases and accounted for 15.31% of all lesions biopsied throughout the period. Mean age of the patient was 32.2 years, and 58% were males. The overall male to female ratio was 1.38:1. Radicular cyst was most prevalent histological type (48.67%) followed by dentigerous cyst, odontogenic keratocyst, lateral periodontal cyst, paradental cyst, residual cyst, adult gingival cyst, glandular odontogenic cyst, calcifying odontogenic cyst. The most common locations of the odontogenic cysts were the mandibular (49.33%) and posterior region (33.33%). The distribution pattern of odontogenic cyst in this study is relatively similar to that in other parts of the world but there are some geographic differences with regard to the relative frequency, sex, and anatomic distribution of the odontogenic cyst.

Savithri V et al (2020)⁷ determined the prevalence and factors associated with the cases of histopathologically diagnosed OCs that reported to their institution and analyzed the factors associated with the presence of OCs and to study the biologic behavior of different types of cysts. A cross-sectional study was performed on 596 oral and maxillofacial specimens during 2013–2017. Out of these, the cases which were histopathologically proven as OCs were separated and data were collected and analyzed regarding the age, gender, primary symptom, site, radiographic feature, histopathologic diagnosis, treatment given, recurrences and associated conditions if any. Of the 596 cases included in the study, 67 (11.2%) had a histopathological diagnosis of OCs. 41

cases were inflammatory cysts and 26 developmental cysts. 28 cases (41.8%) were reported as periapical cysts, 10 cases (14.9%) were odontogenic keratocysts (OKCs), 9 cases (13.4%) were dentigerous cysts, 8 cases (11.9%) were inflamed cyst wall, 5 cases (7.5%) each of residual cyst and developmental OCs and one case (1.5%) each of orthokeratinized OC and calcifying OC. This study showed that the prevalence of OCs was similar to other reported studies. Periapical cysts were the most common cysts reported, followed by OKCs showing that the latter were more frequent than dentigerous cysts.

Buaoud MM et al (2023)⁸ determined the prevalence of odontogenic jaw cysts in a Libyan population in Benghazi and compared these data with previously published reports from Libyan and other geographic areas. This was a descriptive study where screening of 2189 biopsies (retrieved from the archives of The Department of Oral Pathology/University of Benghazi, Libya) was performed for the sake of recognizing the three cysts chosen for the purpose of this study. Out of the screened lesions, 276 cases (12.6%) were diagnosed as odontogenic cysts in the period from 2006 to 2019. Of those, 67.39% were inflammatory and 32.61% were developmental in nature. Radicular cysts (60.5%) were the most frequent cysts followed by dentigerous cysts (14.8%) and keratocysts (14.5%). The mean ages of the patients were 32.3, 29.7, and 33.2 years, respectively. Occurrence of the cysts was noticed more in the maxilla than in the mandible (1.3:1). The overall male-to-female ratio was 1.1:1. The prevalence of odontogenic cysts was similar to that reported in a previous study in Libya and other countries irrespective to WHO (2017) classification of odontogenic cysts.

CONCLUSION

The prevalence of occurrence of odontogenic cysts in this study was 60%. The most common cyst observed was odontogenic keratocyst, followed by dentigerous cyst.

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