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PREVALENCE AND DISTRIBUTION OF ODONTOGENIC CYSTS IN JAMMU& KASHMIR POPULATION- A RESEARCH.

Clinical Research

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ABSTRACT

Aim - The purpose of this study is to determine the prevalence of odontogenic cyst in an Indian population and compare it with various reports from the other geographic areas of the world. The files on odontogenic jaw cysts reported between 2011 and 2017 at the department of Oral Pathology & Microbiology ,Indira Gandhi Dental Collegeand Hospital and associate laboratorie units 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. The. Radicular cyst was most prevalent histological type 48% followed by dentigerous cyst 45.33%, odontogenic keratocyst (20%). The most common locations of the odontogenic cysts were the mandibular and posterior region of mandible .

KEYWORDS

Introduction

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. The head and neck region and the jaw in particular, collectively comprise one of the most common sites for the occurrence of cysts. Odontogenic cysts are derived from the epithelium or its embryonic remnants, which are associated with the development of the dental apparatus. They are either of developmental origin or may result from inflammation. The most common odontogenic cysts are radicular cysts, odontogenic keratocysts and dentigerous cysts.[1] The knowledge of epidemiology of odontogenic cysts is limited, which may be attributed to inadequate documentation in our hospitals and health care centres. Very few prevalence studies of odontogenic cysts have been carried out in India.[2-4] The aim of the study was to determine the frequency of odontogenic cysts diagnosed at a Indira Gandhi Dental College& Hospital and associated laboratories in jammu & kashmir and compare the findings with information reported in other parts of the world.

Mathodology.

A record-based descriptive study was conducted using the clinical and histopathological records of the cysts documented in the departments of Indira Gandhi Dental College& Hospital and associated laboratories in jammu & kashmir hospital, in the last seven years (2011–2017). The study variables included age, gender, anatomic site of the lesion, and histopathological diagnosis. World Health Organization (WHO) criteria was adopted for the classifcation of odontogenic cysts. The data collected was entered in EpiData software version 2.1 and analyzed using EpiData Analysis (EpiData Association, Odense, Denmark). The study variables were summarized using proportions (percentages) across gender, age, and anatomic site of the lesion

Results –

Table 1 – Distribution Of Cyst In Percantage (%)

Cyst	Total (150)	Percentage (%)
Radicular cyst	72	48%
Dentegrous cyst	68	45.33%
Kcot	30	20%

TABLE 2- Topographic Distribution Of Odontogenic Cysts.

	Site					
	Maxilla			Mandible		
	Total	Anterior	Posterior	Total	Anterior	Posterior
Dentigerous cyst (n= 68)	17	5 (29.41%)	12 (70.58%)	51	13 (25.49%)	38 (74.50%)
Radicular cyst (n=72)	53	31 (58.49%)	22 (41.50%)	19	2 (10.52%)	17 (89.47%)
KCOT cyst (n=30)	7	0 (0%)	7 (100%)	27	5 (18.51%)	22 (81.48%)

TABLE 3: Gender Distribution In Odontogenic Cyst.

Presence	Gender	
	Males	Females
Dentigerous cyst(n=68)	46(67.64%)	22(32.35%)
Radicular cyst(n=72)	42(58.33%)	30(41.66)
KCOT (n=30)	21(70%)	9(30%)

TABLE 4 : Age Distribution in the samples of odontogenic cyst.

	Years		
Cyst	<20	20-40	>40
Dentigerous cyst(n=68)	41(60.2%)	14 (20.5%)	8 (11.76%)
Radicular cyst(n=72)	18 (25%)	32 (44.44%)	12 (16.66%)
KCOT (n=30)	3 (1%)	18 (60%)	9 (30%)

Total number of Study sample was 150 cases reported in the Indira Gandhi Dental College &Hospital and associate hospitals. With respect to histological type out of 150 cases 72(48%) cases were radicular cyst (table -1) followed by the dentigerous cyst 68(45.3%) and KCOT 30(20%).the common cyst for the radicular cyst was anterior maxilla (table-2) where as for the dentigerous cyst and KCOT the most prevalent anatomical location was the posterior mandible. With respect to age distribuition, majory of radicular cyst32 (44.44%) and KCOT(80%) was diagnosed between the age of 20-40 years on the other hand for the dentigerous cyst the common age group was below 20 years(60.2%).(table-4).on comparison of gender predominance the males were common for all three lesions included radicular cyst (67.64%), dentigerous cyst (58.33%)and KCOT (70%)(table -3).

Discussion .

This paper targets the updating of relative frequency and clinical and demographical characteristics of odontogenic cysts in a jammu & kashmr population. The present study is the largest series of cystic lesions of the jaw in a jammu & kashmir population deccribed in the literature. on the basis of their origin Odontogenic cyst (OC) is divided into two groups: 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 [5,6] there are various types of odontogenic cyst known and many of them share similar clinical and radiographic features [7]. Hence, the diagnosis of OCs should be based on careful clinical examination, radiographic and histopathologic features. Radicular cyst which is a Inflammatory cyst is associated with inflammation while developmental cyst are of unknown etiology. [8] (.In the present study we found that the radicular cyst (48.33%)is the common cyst followed by dentigerous cyst(45%)and odontogenic keratocyst. (okc)(20%) on comparision of three common odontogenic cysts. our results are in accordance with the studies done by different authors such as Mosque-Taylor A et al, Ochsenius G et al, Batista de Souza L [9-11] Our results showed an increase in the incidence of radicular cysts between the third and fourth decades of life in agreement with other studies involving populations from UK [12,13]. In contrast with the studies done by Ochsenius G, . Batista de Souza L et al have shown a peak incidence between the second and third decades of life.[11,14].in accordance with the studies done by Meningaud JP and Tortorici S.[15-16]

We also found that the Inflammatory cysts such as radicular cysts were mostly diagnosed in male patients as women are probably more concerned to their oral health could be the reason for this and also males are more prone to trauma. It has been noticed that the wide population sectors in jammu & kashmir shows higher prevalence of deep dental caries and pulp necrosis is as a very common consequence.. The mechanism to develop radicular cyst includesdeep carious lesion, pulp necrosis, colonization and proliferation of microorganisms within the root canal arealeads to release of bacteria toxins and inflammatory mediators into the periapical region.[17]

With respect to dentigerous cysts we observed that dentigerous cyst is the second common cyst found in the jammu &kashmir population,our results are in accordance with the study done by Villasis-Sarmiento L ,el al in maxican population.[18] our finding are in accordance with study done by Villasis-Sarmiento L ,el al that the dentigerous cyst is common in posterior mandibular area and more common in males as compare to females.[18] This is perhaps not a surprising finding given the fact that lower third molars and upper canines are the teeth most commonly affected by impaction.

Odontogenic keratocysts previously included both para and orthokeratinized variants. According to the new WHO classification, these cysts have now been reclassified as keratocystic odontogenic tumours and jaw cysts with keratinization respectively. In our study we found that the dentigerous cyst is common in age range below the age of 20 years,where as posterior mandibular area and more common in males as compare to females.these finding are in accordance with the different studies done by different authors such as Jones AV.et al, Ochsenius G et al[19]. Multiple cases of KCs have been reported in the literature that could be associated with Gorlin syndrome. Also it should be noted that patients, records in our institution are not computerized and follow-up examinations are not routinely recorded. The possibility that patients may visit different centers for recurrent or multiple lesions should be considered. Therefore, we could not draw any conclusion regarding the prevalence of this syndrome among our cases.

Conclusion

Our results revealed that there is a wide range of OCs, with some cysts having a predilection for certain ages, sex and sites. Radicular cysts are the most prevalent among the odontogenic cysts followed by the dentigerous cyst. Regular epidemiologic monitoring of the oral cavity lesions within a population is important for initiation of preventive approaches and future planning.

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