

Different Types of Jaw Cysts: A Retrospective Study

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Introduction

A cyst is a closed sac having a distinct membrane and division compared to the nearby tissue. It may contain air, fluid or semifluid material. It is a pathological epithelial lined cavity. In some cases there is no epithelium. It grows usually from internal pressure generated by fluid being drawn into the cavity from osmosis (hydrostatic pressure). The bones of the jaws i.e. mandible and maxilla are of highest prevalence of cyst in human body. This is due to the abundant amount of epithelial remnants that can be left in the bones of the jaws during embryonic process.

Types of Cysts

- (1) Cyst that arise from tissues that would normally be developed into teeth are referred to as Odontogenic Cyst
- (2) Non-Odontogenic cysts are formed from tissues other than those involved in tooth development

Aims & Objective

This is to study the prevalence of different types of cysts in different groups, their sex predilection, racial variation along with their sites of involvement.

Materials And Methods

This is a retrospective study consisting 85 cases of different types of cysts. The cases were reported in the Department of Dental Surgery, Tripura Medical College & Dr. BRAM Teaching Hospital in 3 years. They were investigated, diagnosed and treated. In 6 cases (7.05%) only episection was done, 4 cases (4.7%) were done by marsupialization and the rest (75 cases, 88.2%) were treated by enucleation. But out of these 85 cases 4 cases had the history of recurrence and a second time surgery had to be done. Most of the cases were followed up for 3 consecutive years whereas the OKC was followed up for 5 years. All the clinical data were collected from our Departmental register.

Results

Children below the age of 1 Year are the least affected group whereas cysts of jaws occur mainly in the age group of 16-30 yrs (41%). Male patients were more affected (61%) than the female patients (38%), Table-1

In racial variation we have found the tribal patients are very less affected (9.4%) in comparison with the non-tribal patients (90.4%), Table-2.

In the study of site of involvement it is clear that maxilla is far more vulnerable (62.3%) to be affected by odontogenic cysts than mandible (37%), Table-3.

Periapical (Radicular cyst) cysts are mostly occurring

odontogenic cysts (65.8%) followed by Dentigerous cyst (12.9%). In non-odontogenic type naso-palatine duct cysts are more common than any other variety, Table-4.

Table -1

Age group (Age)	No of patient	Percentage
0-1	04	4.7
2-15	07	8.2
16-30	35	41.1
31-45	21	24.7
Above 45	18	21.1

No of Patient

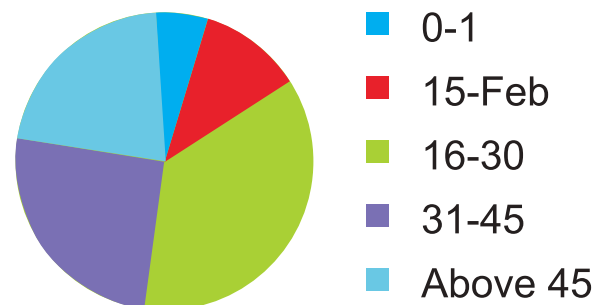


Table -2

Sex & race		No of patient	Percentage
Sex	Male	52	61.1
	Female	33	38.8
Race	Tribal	08	9.4
	Non Tribal	77	90.5

No of Patient

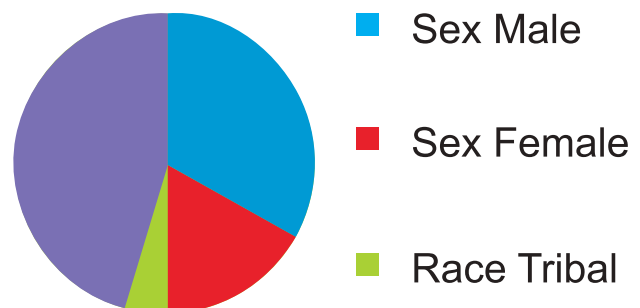


Table-3

Site of involvement	No of patient	Percentage
Maxilla	53	62.3
Mandible	32	37.6

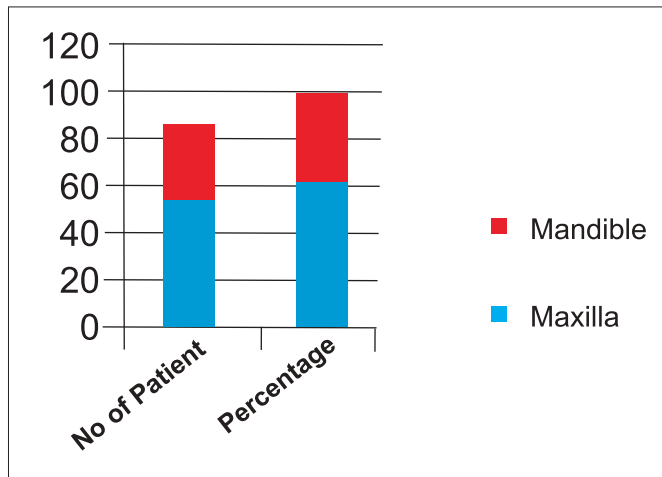
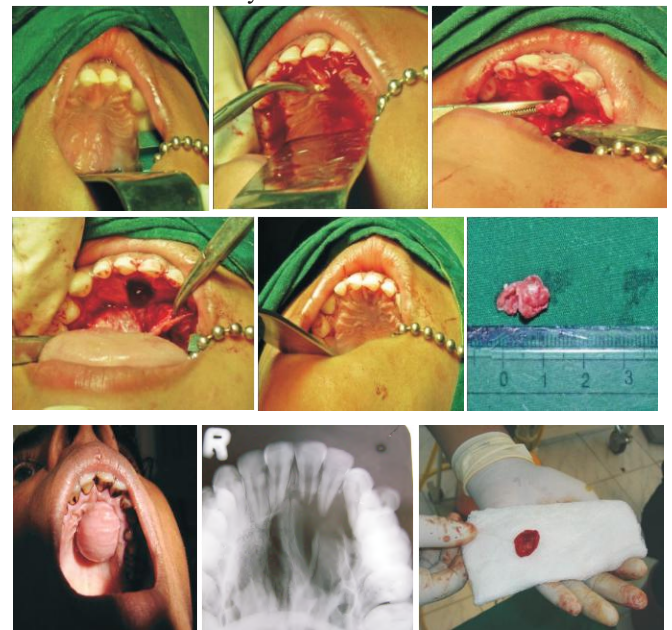
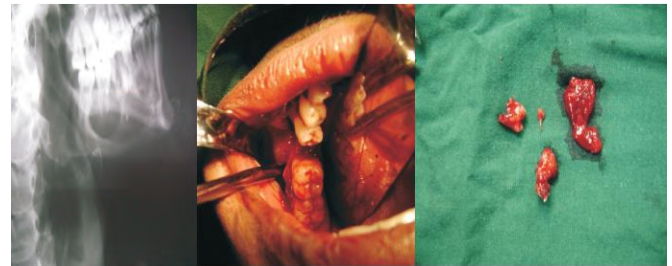
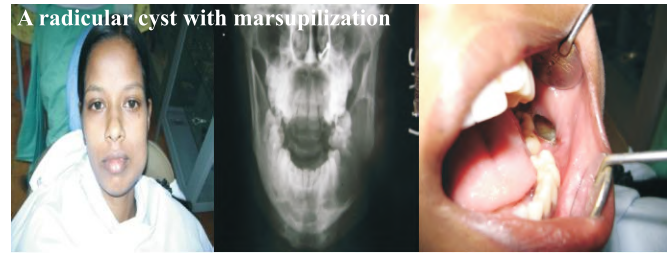
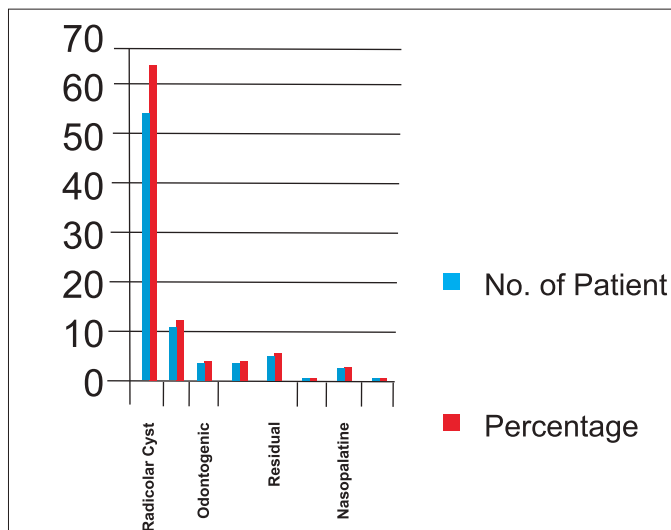


Table-4

Types of Cyst	No. of Patient	Percentage
Radicular Cyst	56	65.8
Dentigerous	11	12.9
Odontogenic kerato cyst	04	4.7
Eruption	04	4.7
Residual	05	5.8
Paradental	01	1.1
Nasopalatine Duct Cyst	03	3.5
Globulo Maxillary Cyst	01	1.1



A palatal radicular cyst with enucleation

Review of Literature

Periapical cyst(Radicular cyst)can be combined as the most important lesions which can be in the teeth with necrotic pulp or improper root canal therapy. It is the most frequent odontogenic cyst in jaws(1).Cyst is formed by hydropic degeneration of epithelial rests of Malassez as a result of non vital teeth stimulation in periapical region(2).The treatment of radicular cyst in extraction,RCT, periapical surgery or in some cases the combination of these(3,4,5).Dentigerous cyst is the second most common odontogenic cyst affecting the jaw bone(6).It constitutes around 20%-24% of all the odontogenic cysts(7).The odontogenic Keratocyst(OKC)affects mainly the posterior area of the mandible.The lesion is usually asymptomatic, but some present with pain, swelling and pus discharge(8).Eruption cyst(eruption hematoma) is an odontogenic cyst with the

histologic features of a dentigerous cyst that surround a tooth crown that has erupted through bone on the alveolar ridges.(9).Most commonly the residual cysts actually are retained periapical cysts from teeth that have been removed.(10).Nasopalatine duct cyst is the most developmental non-odontogenic cyst of oral cavity which accounts for 1.3%.-4.2% of non-odontogenic cyst(11).It seems clear that the paradental cyst is of inflammatory origin and that it arises from odontogenic epithelium(12).The globulo-maxillary cyst has traditionally been described as fissural cyst found within the bone between the maxillary lateral incisor and canine teeth.(13).

Discussion

Cyst may be classified under two broad groups e.g Odontogenic & non odontogenic. Radicular cyst is the commonest in odontogenic group while nasopalatine cyst is the most common in non-odontogenic group. Odontogenic keratocyst, though less common, has got the highest recurrence rate, so follow up after treatment should be done at least for five years or more. Whatever be the type of cyst, if left untreated,can lead to serious disfigurement or infection of jaw bones along with poor quality of life. Treatment modality can be different for different types of cysts but care must be taken to opt for a corrective approach to save adjacent vital structures. Education is the best mode of treatment. Marsupilization has got an important role in the treatment of jaw bones. In large cysts if there is possibility pathological fracture, or very close to the maxillary sinus or any other vital anatomical structures are in the vicinity of cyst, decompression by marsupilization becomes the treatment of choice. In diagnostic process ,different types of X-rays are helpful. Confirmation can be done by aspiration cytology. In case of large cysts CT scan & CBCT are indicated now a days.

Conclusion

In our study we have found that most of odontogenic cysts are of radicular types. There are mostly Inflammatory in origin

because they arise in presence of a necrotic tooth,failed root canal therapy etc. Other types of cysts are often diagnosed during routine dental examination because most of them are generally symptom less. Whatever be the case, once it is diagnosed it should be treated accordingly. In suspicious case, biopsy of the lesion should be done & referred to the pathologist & long term follow up should be carried out.

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