

Cyst's of the Jaw – A Retrospective Study of Five Years

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Abstract: A five year retrospective study was done from the data available in the Department of Oral and Maxillofacial Surgery from the year 2010 to 2015. Patients reporting with the cyst in Oral and Maxillofacial region were included in our study. Analyzed clinical variables included age, gender, anatomical location, and treatment options. The objective of our study was to determine the type, demographic profile, distribution and various treatment modalities of cyst.

Keywords: cyst, jaw, site, age, treatment

1. Introduction

Kramer (1974) has defined cyst as a pathological cavity having fluid, semifluid or gaseous contents and which is not created by the accumulation of pus. The cysts of the jaws are basically divided into with epithelial lining& without epithelial lining. Odontogenic cysts constitute an important aspect of oral and maxillofacial pathology. The two principal treatment options that are usually followed are enucleation of the cyst wall and marsupilization.

2. Materials and Methods

The data used in the study was collected from the records, which included all the patients who reported to Department of oral & Maxillofacial Surgery, during the period of 2010 to 2015. During this period 103 patients with cyst reported to us, diagnosed according to the clinical, radiographical and histopathological findings. The type, age, gender, anatomical location and mode of treatment done were recorded in all cases.

3. Results

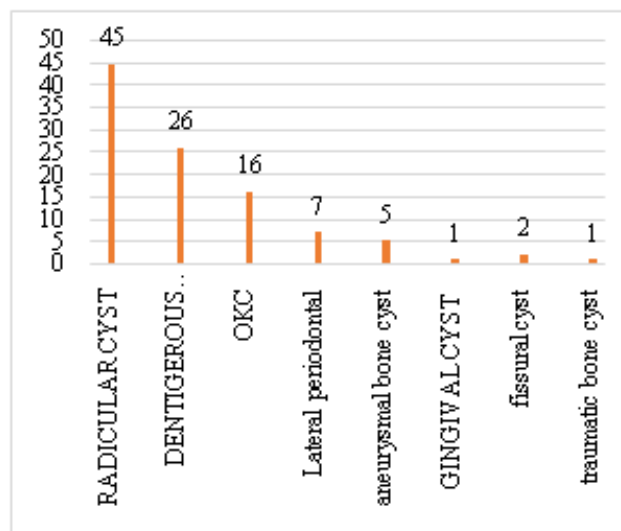


Figure 1: Incidence of Cyst

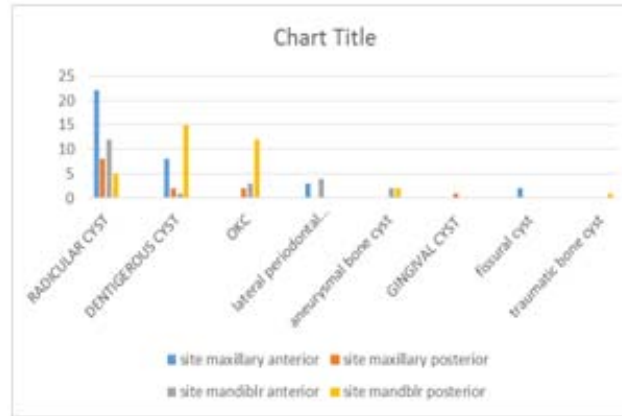


Figure 2: Site

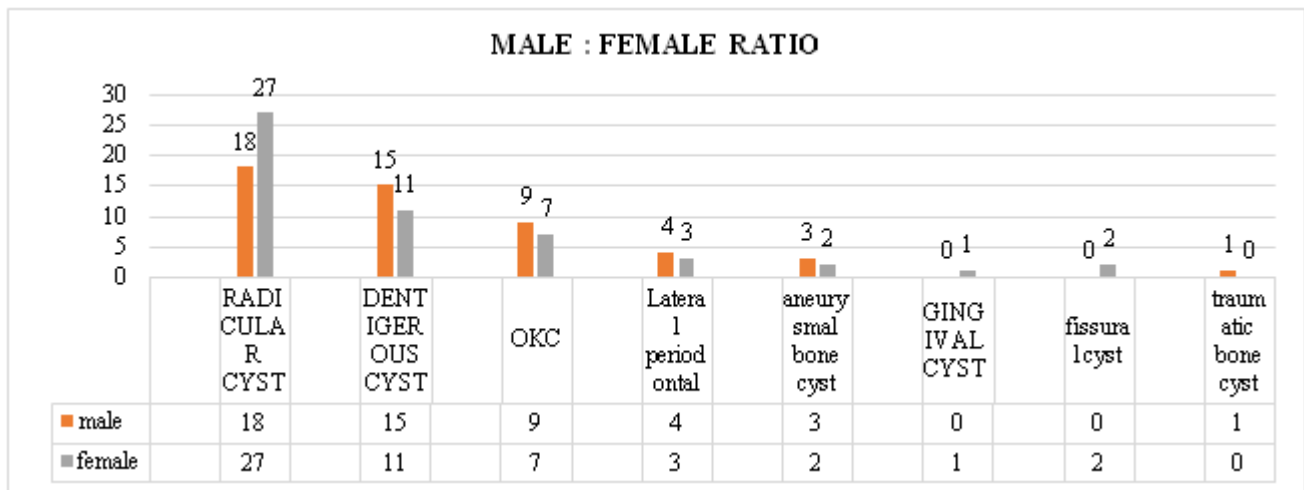


Figure 3: Male: Female Ratio

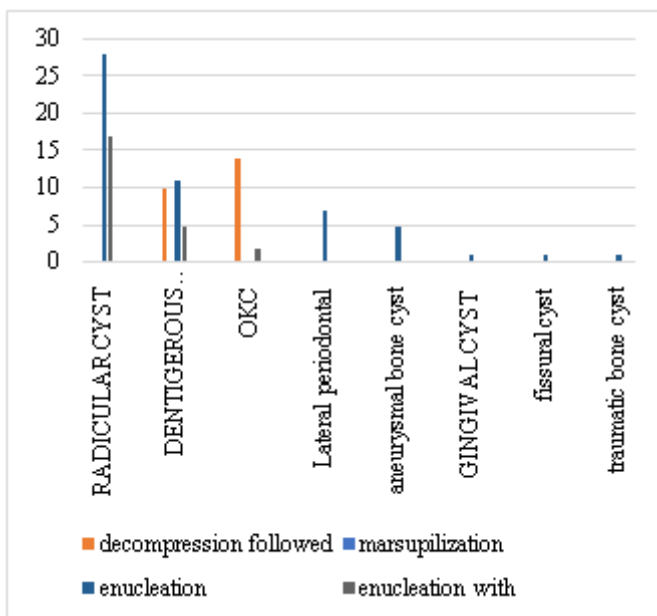


Figure 4: Treatment Done

4. Discussion

The word cyst is derived from Greek word KYSTIS meaning a bladder. Cyst may occur anywhere in the body but head and neck region is the more common site, this is because of the complex embryology and development of teeth with the presence of varying amount of residual islands which are

potentially capable of being involved in the development of cyst. WHO in 1992 has classified cyst based on histologic typing as

Table 1

Epithelial		Inflammatory Cyst
Odontogenic Ntogenic	Non-Odo	
Gingival cyst of infants	Nasopalatine	Radicular cyst
Odontogenic keratocyst	cyst	Apical and lateral radicular cyst
Eruption cyst	Nasolabial cyst	Residual cyst
Lateral periodontal cyst		Paradental cyst
Gingival cyst in adults		
Glandular odontogenic cyst		

In our study of 103 cases, the most common type was radicular cyst, followed by dentigerous and odontogenic keratocyst. Traumatic bone cyst had the minimum prevalence. Radicular cyst had maximum predilection for maxillary anterior region while dentigerous and odontogenic keratocyst occurred most in mandibular posterior region.

The treatment modality was based on size and site of cyst. The principal treatment modality for radicular and dentigerous cyst was enucleation with primary closure and enucleation followed by reconstruction. Odontogenic keratocyst was treated mainly by decompression followed by enucleation. Lateral periodontal cyst, gingival cyst's of adult,

fissural cyst, traumatic bone cyst, and aneurysmal bone cyst were treated by enucleation followed by primary closure. There was no incidence of recurrence in any of the cases till date.

Odontogenic Cysts

Cysts of the jaws are often lined by a layer of epithelium and a layer of subjacent connective tissue. The epithelium associated with each of the odontogenic cysts is derived from one of the following sources 1) a tooth germ, (2) the reduced enamel epithelium of a tooth crown, (3) the epithelial rests of Malassez, (4) remnants of the dental lamina, or (5) possibly the basal layer of oral epithelium.

Dentigerous Cyst

Dentigerous cyst can be defined as an odontogenic cyst that surrounds the crown of an impacted tooth; caused by fluid accumulation between the reduced enamel epithelium and the enamel surface, resulting in a cyst in which the crown is located within the lumen. In our study, 26 patients were confirmed with a diagnosis of dentigerous cyst, with a male : female ratio of 1.3 :1.

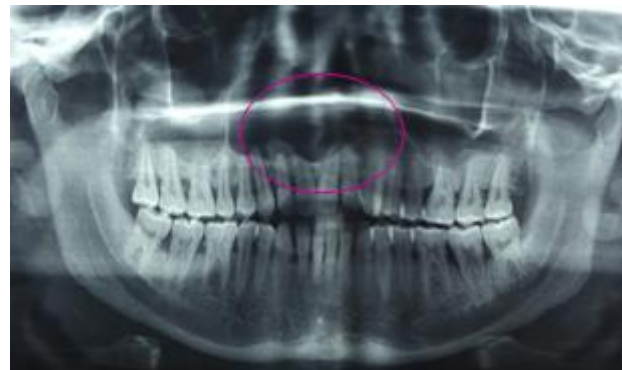


Figure 7: Dentigerous Cyst In Relation To Upper Right Canine Region



Figure 8: Enucleation Done

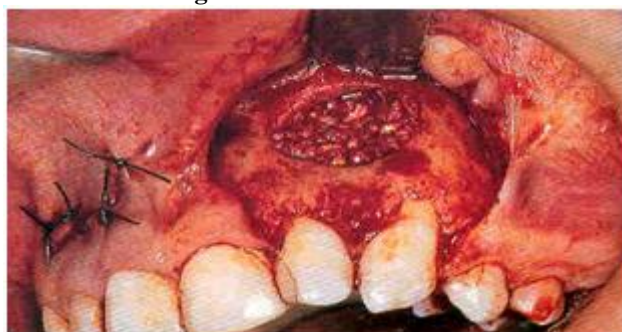


Figure 9: Defect Filled With Corticocancellous Bone Graft Harvested From ILAC Crest.

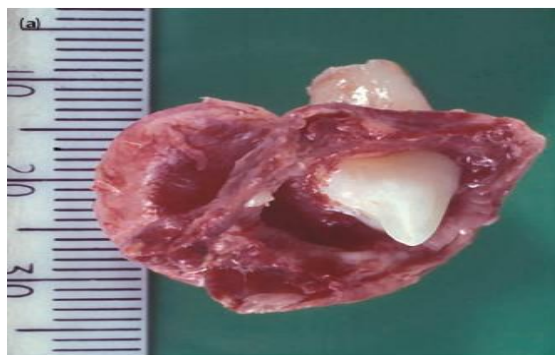


Figure 5: Impacted Tooth with Follicle Associated with Dentigerous Cyst

Most dentigerous cysts are Solitary. It may be associated with expansion of bone with subsequent facial asymmetry, extreme displacement of teeth, severe root resorption of adjacent teeth and pain. Dentigerous cyst may result in a 'hollowing-out' of the entire ramus extending up to the coronoid process and condyle. A dentigerous cyst can be suspected when the follicular space is more than 5 mm in radiograph. The dentigerous cyst is usually a smooth, unilocular lesion. The treatment of the dentigerous cyst is usually dictated by the size of the lesion

Odontogenic Keratocyst



Figure 10: Odontogenic Keratocyst of Left Mandibular Posterior Region

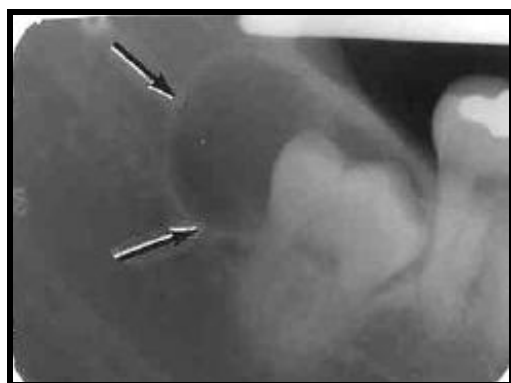


Figure 6: Central Type Dentigerous Cyst in Mandibular Third Molar Region



Figure 11

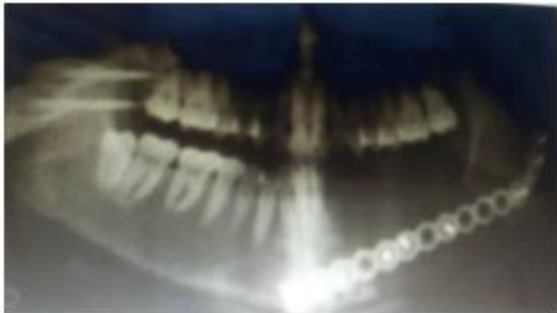


Figure 12: Segmental Resection was Carried Out and Reconstructed with Rib Graft and Reconstruction Plate 2.5 Mm Titanium was used



Figure 13: Radicular Cyst With Respect to Left Lateral Incisor



Figure 14: Enucleation Done and Defect Filled by Bone Grafting

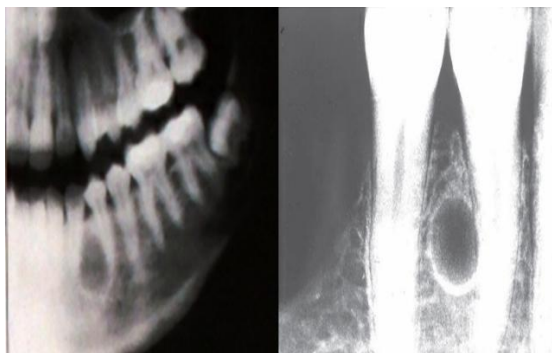
Odontogenic keratocyst is defined as “a benign uni or multicystic, intraosseous tumor of odontogenic origin, with a characteristic lining of parakeratinized stratified squamous epithelium and potential for aggressive, infiltrative behaviour. The origin of this cyst is generally from dental lamina. In our study OKC had a male predilection; with 9 males being affected. The lesion may appear as either a unilocular or multilocular radiolucency, frequently with a thin sclerotic border representing reactive bone. The treatment modality generally followed for odontogenic keratocyst is marsupialization followed by enucleation. Enucleation with surgical curettage or chemical cauterization with Carnoy's solution and resection with bone grafting was done depending on histopathologic diagnosis, size and site of cyst.

Radicular Cyst:

This is the commonest odontogenic cyst; it is inflammatory in origin and occurs due to inflammation of pulp as a response to dental caries. The etiology consists of pulpal inflammation due to dental caries, tooth fracture, deeply placed filling, secondary infections. In our study radicular cyst showed a slight predilection for middle aged males. The patient may be totally asymptomatic or may complain of dull pain if the cyst is infected. Suppuration of cyst causes its transformation into an abscess. The radicular cysts appear as a solitary unilocular radiolucent area usually present around the root apices of infected tooth.

Lateral Periodontal Cyst (Botryoid Odontogenic Cyst)

The designation ‘lateral periodontal cyst’ is confined to those cysts that occur in the lateral periodontal position and in which an inflammatory aetiology and a diagnosis of collateral OKC have been excluded on clinical and histological grounds (Shear and Pindborg, 1975). Lateral periodontal cysts may be symptomless and only discovered during routine radiological examination of the teeth.

Lateral Periodontal Cyst in Mandibular Premolar Region **References****Figure 15**

Most of them are less than 1cm in diameter except the botryoid variety which may be larger and multilocular and may extend into the periapical areas. In our study, we found later periodontal cyst in 7 cases, with majority of them occurring after 30 years of age. It was almost equally present in both the sexes with a marked predilection for mandibular anterior region. All the cases were treated with enucleation followed by primary closure.

Aneurysmal Bone Cyst

The true nature of the lesion remains uncertain, although most regard it as probably reactive. Although the lesion is characteristically cystic and blood filled, the term 'aneurysmal bone cyst' was suggested by Jaffe and Lichtenstein (1942) to describe the characteristic 'blown-out' contour of the bone seen in radiographs of the lesion. Aneurysmal bone cysts of the jaws produce firm swellings which have been described as painful. When the lesion perforates the cortex and is covered by periosteum or only a thin shell of bone, it may exhibit springiness or egg-shell crackling. In our study we found an occurrence of aneurysmal bone cyst in 5 patients with a slight predilection for mid aged male patients. All cases in our study were treated by enucleation with primary closure.

**Figure 16: Aneurysmal Bone Cyst With Respect to Mandibular Premolar Region****5. Conclusion**

Knowledge of the prevalence of cyst and its association with demographical profile, site and treatment modalities helps in early and accurate diagnosis and proper treatment of these lesions. Thus we conclude, that radicular cyst was the most prevalent cyst in our study followed by dentigerous cyst. The primary treatment modality was enucleation followed by primary closure. There was no recurrence in any of the cases.

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