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RESEARCH ARTICLE

ODONTOGENIC KERATOCYST - A DECEPTIVE ENTITY

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Abstract

Odontogenic keratocyst (OKC) is the cyst arising from the cell rests of dental lamina. It can occur anywhere in the jaw, but commonly seen in the posterior part of the mandible. Radiographically, most OKCs are unilocular when presented at the periapexand can be mistaken for radicular or lateral periodontal cyst. When the cyst is multilocular and located at the molar ramus area, it may be confused to ameloblastoma. Lots of cases have been reported in the literature where OKC is associated with the non-vital tooth. So trauma could be one of the reasons in inducing this cyst.Presentcaseis of 30 years old femalewith a chief complaint of pain in lower back region and difficulty in mouth opening for 1 week reported in Department of Oral Medicine and Radiology in Divya Jyoti College of Dental Sciences and Research, Modinagar. On histopathological examination it was diagnosed as Odontogenic Keratocyst.

Introduction:-

Odontogenic Keratocyst (OKC) was first described by Philipsenin 1956. It is the cyst arising from the cell rests of dental lamina. It can occur anywhere in the jaw, but commonly seen in the posterior part of the mandible[1]. It has very aggressive nature and high recurrence rate[2].The OKC may manifest with pain, swelling, discharge, and occasionally paresthesia or displacement of teeth.[3].The clinical feature and radiographic appearance of OKCs are not characteristic. This may lead to misdiagnosis especially when the lesion is in relation to a non-vital tooth [4]. OKC tends to grow in an antero-posterior direction within the medullary cavity of the bone without causing obvious bone expansion[1]. The radiographic appearance of OKC may range from a small unilocular radiolucency to a large multilocular radiolucency. Hence it may resemble ameloblastoma, dentigerouscyst, lateral periodontal cyst, and radicular cyst[3,4] Multiple OKCs are associated with Nevoid basal cell carcinoma syndrome (NBCCS)[2]. Early diagnosis and follow-up of the patient with OKC is important because possibility of such patient there is to develop other features of NBCCS in the future.The clinical significance of the OKC is the potentialfor morbidity associated with extensive bony expansion[5] and recurrence after surgery.[7] Very rarelysquamous cell carcinoma has been found arising in anOKC.[6]

Case Presentation

Female patient, aged 30 years, reported to the Department of Oral Medicine and Radiology in Divya Jyoti College of Dental Sciences and Research, Modinagar with the chief complaint of pain in her lower left back tooth region associated with difficulty in mouth opening for one week. Intraoral examination revealed draining sinus near the angle of mandible on left side region and there was tender on palpation in relation to mandibular third molar on left side.An

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Orthopantomograph(OPG) was advised. OPG revealed a large radiolucent area in the posterior region of the mandible on left side. It was extending from left third molar region to angle and ramus of mandible area(Figure 1).

Patient was referred to Dept of Oral and Maxillofacial Surgery who performed surgical enucleation of the cystic lesions.

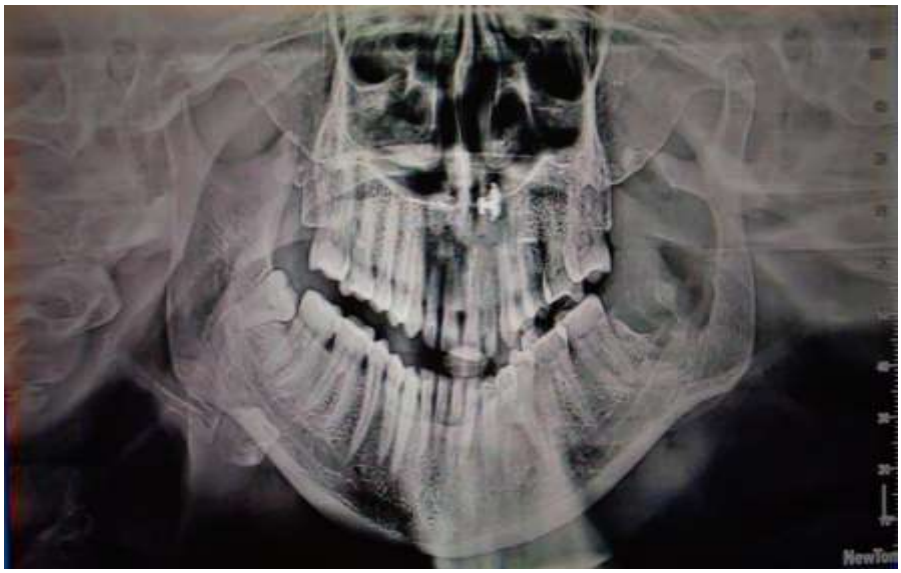

Figure 1:- Pre operative OPG showing radiolucency in left lower posterior region.

The submitted H&E stained section demonstrates a cystic cavity lined by parakeratinised stratified squamous epithelium without rete ridges. There is intensely basophilic cuboidal basal cell lining with nuclei oriented away from the basement membrane at focal areas. Cells superficial to the basal layer are polyhedral and exhibit intercellular oedema in focal areas. Mild dysplastic features like cellular pleomorphism and hyperchromatism are evident in some areas of epithelial lining. The underlying connective tissue is loose and is infiltrated by chronic inflammatory cells like mast cells and lymphocytes. The cyst lining is intimately associated with the muscle tissue, salivary gland acini and oral mucosa. It appears to be detached from the underlying connective tissue in many areas. Few islands of Odontogenic rest are also evident in the connective tissue. (Figure 2&3)Histological features are in accordance with diagnosis of Odontogenic Keratocyst.

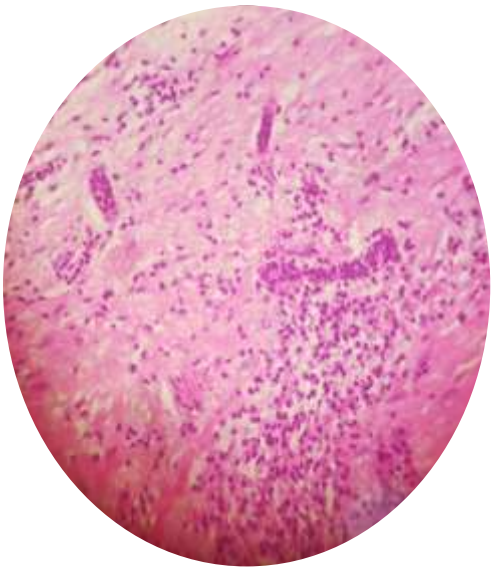

Figure 2:- H&E stained section showing para-keratinizationwith palisaded basal cells.

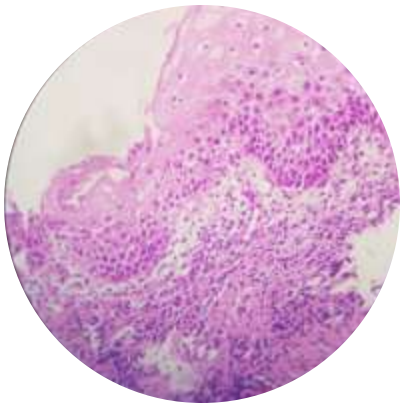

Figure 3:- Connective tissue with chronic inflammatory cells and Odontogenic rests.

Discussion:-

The Odontogenic keratocyst is derived from the remnants of the dental lamina with a biologic behaviour similar to a benign neoplasm. Because of this aggressive nature, recently World health organization used the term "keratocysticodontogenictumor" to describe this cyst[1, 2]. It is named keratocyst because the cystic lining produces keratin. The cyst occurs in any age group, but most commonly seen in the second and third decades of life with male predilection. There are no characteristic clinical manifestations. The more common features are pain, soft tissue swelling, expansion of bone, drainage, and paraesthesiaofthe lip or teeth[2]. Our case was seen in a 30-year-old female patient who had pain and difficulty in mouth opening. Radiographically, most OKCs are unilocular with scalloped margin when presented at the periapex and can be mistaken for radicular or lateral periodontal cyst. When the cyst is multilocular and located at the molar ramus area it may be confused to ameloblastoma. The septa present in ameloblastoma are coarse and curved; originate from the normal bone trapped within the tumor. Hence these septa have honeycomb or soap bubble appearance which is not seen in OKC. In Odontogenic myxoma, septa present are thin, sharp, and straight. A simple bone cyst has similar scalloped margin, but this margin is delicate and not distinct [3,8]. The odontogenickeratocyst may occur due to traumatic implantation or down growth of the basal cell layer of surface epithelium or reduced enamel epithelium of the dental follicle. Nohl and Gulabivala reported two cases of OKCs, and in their first case, tooth associated with OKC had history of trauma twenty years ago[9]. The OKC is associated with a high recurrence rate[7,11] and the most common location is the third molar and ramus area of the mandible. OKC are characterized by an aggressive behaviour and can demonstrate a greater expansion or recurrence when compared with other jaw cysts[10].

Conclusion:-

The radiographic and clinical characteristics of OKCs are not pathognomonic signs and may lead to a difficult diagnosis especially when this lesion is adjacent to teeth.OKCs should be one of the differential diagnoses for the periapicalradiolucencies which are not responding following the initial endodontic therapy. The clinical, radiographic, and histopathological correlations are essential for proper patient treatment and followup. This will avoid the further complications, since OKCs are highly aggressive, have high recurrence rate, and are associated with NBCCS.

Consent-

Patient was explained about the lesion, and informed consentwas taken.

Conflicts Of Interest –

The authors declare that they have no conflicts of interest.

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