

Dentigerous Cyst in Anterior Maxilla- A Case Report.

Abstract:

Dentigerous cyst is an odontogenic cyst, which apparently develops by accumulation of fluid between reduced enamel epithelium and the tooth crown of an unerupted tooth. It is one of the most prevalent types of odontogenic cysts associated with an erupted, developing or impacted tooth, particularly the mandibular 3rd molars, the other teeth that are commonly affected are maxillary canines and third molars. The present case report describes an infected dentigerous cyst associated with impacted permanent maxillary canine managed with enucleation and surgical removal of the tooth.

Key Words: Dentigerous cyst, impacted, maxillary canine.

Introduction:

A cyst is defined as a pathological cavity lined by epithelium. Amongst the developmental cysts of the maxillofacial region dentigerous cyst is the most common. The cystic lining is derived from the epithelial remnants of tooth forming organ[1]. Second and third decade of life is the common age of occurrence and generally involves the mandibular third molar, maxillary canines and mandibular premolars, followed by supernumerary teeth and central incisor in decreasing order of frequency of involvement[3]. Those teeth located in the jawbones or in regions other than the alveolar arch are said to be ectopically placed. This may be due to irregularity in the migration of a tooth bud which occurs due to genetic/environmental relationship factors causing a budding tooth to congenitally migrate in the initial stages of embryogenesis, or is the result of displacement of the teeth owing to local factors. Volumetric incompatibility between the tooth and dental arch, prolonged retention of primary teeth, presence of clefts, ankylosis, cystic or neoplastic lesion or trauma may be the local factors involved[4]. Complications associated with dentigerous cyst include bone deformities, pathological fractures due to large lesions, loss of a permanent tooth, and development of squamous cell carcinoma.

Case history:

A 40 year-old female patient reported to the Department of Oral and Maxillofacial Surgery Maharaja Ganga Singh Dental

College and Research Centre with a painless swelling in the left upper front tooth region since 6-7 months. On general examination, the patient was apparently healthy with normal growth and development for her age and there was no history of systemic diseases or trauma. Clinical examination revealed an extraoral swelling present over left maxillary anterior region of around 2×2 cm in size, without any changes or ulcerations on overlying skin. Intraorally the swelling was extending from left maxillary central incisor to left maxillary 1st premolar with obliteration of the vestibule.

Orthopantomogram revealed the presence of a well-defined radiolucency surrounded by a well-defined radiopaque border surrounding the cervical area of 23, impacted 23 and root resorption of 21 was seen. Fine needle aspiration revealed the presence of straw colored fluid within the lesion. In addition total protein estimation was done, the concentration of total

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protein was 4.8g/dl. After FNAC, clinical and radiographic examination, a provisional diagnosis of dentigerous cyst involving impacted teeth was made. Routine hematological investigations was done. Cystic enucleation of the lesion was planned under local anesthesia. All aseptic precautions were taken. Carefully the cystic lining was separated from the underlying bone along with the impacted teeth (permanent canine). Cystic contents were evacuated and irrigation was done to remove any residual fragment. The cystic cavity was packed with iodoform gauze, the mucoperiosteal flap was approximated and suturing done using 3-0 silk suture. Dressing was given. The suture removal was carried out after 7 days. The post-operative healing was uneventful. The removed surgical specimen was sent for histopathological examination, which confirmed the diagnosis of the inflammatory dentigerous cyst.



Fig. 1 .Pre-operative clinical picture showing swelling in the left radiolucency surrounding impacted canine. Maxillary anterior region.

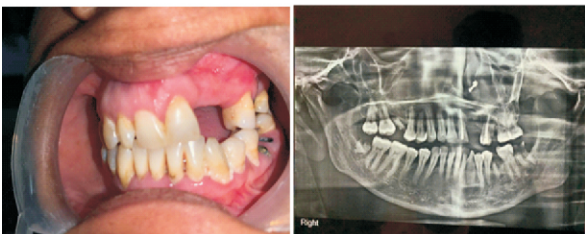


Fig. 2. OPG view showing well defined unilocular radiolucency surrounding impacted canine.



Fig. 3.Surgical view of the cyst enclosing the impacted teeth

Fig. 4.Surgical view after complete cyst enucleation



Post Op Clinical Image -uneventful Healing

Post Op Opg Showing Healed Region

Discussion :

Dentigerous cyst has been defined as the cyst attached at the cement-enamel junction and encloses the crown of an unerupted tooth. Venous outflow is obstructed due to the pressure exerted by potentially erupting tooth on impacted follicle which induces rapid transudation of serum through capillary walls. The increased hydrostatic pressure of this pooling fluid causes separation of the follicle from the crown with or without reduced enamel epithelium¹. The most common site of involvement is the molar area in the mandible whereas the anterior region is the most common area in the case of the maxilla. Order of frequency in decreasing order is, mandibular third molars, maxillary canines, mandibular second premolars and maxillary third molars^[1]. They may also occur around supernumerary teeth; however, they are only rarely associated with primary teeth. Our case was related with permanent maxillary canine. Patients having dentigerous cyst in maxillary bone or sinus may present with facial swelling, purulent rhinorrhea, nasal obstruction and external nasal deformity^[2]. Panoramic radiograph and upper occlusal radiograph are recommended as first-line diagnostic tools and further evaluation of the lesion by computed tomography examination. The differential diagnosis of dentigerous cyst includes ameloblastoma, odontogenic keratocyst, odontogenic fibroma, odontogenic myxoma, cementomas and Pindborg tumor. Early recognition of the entity and removal is necessary as they may rarely have the potential to develop odontogenic tumors like ameloblastoma and malignancy like squamous cell carcinoma and mucoepidermoid carcinoma¹. Most dentigerous cysts are treated with enucleation of the cyst and removal of the associated tooth. Large dentigerous cysts may be treated with marsupialization when enucleation and curettage might otherwise result in neurosensory dysfunction or pre-dispose the patient to an increased chance of pathological fracture^[3]. In the present case report, enucleation was the treatment of choice due to the small size of the cyst and its association with the unerupted permanent canine.

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