DENTIGEROUS CYST ASSOCIATED WITH BILATERAL IMPACTED SUPERNUMERARY TEETH- A CASE REPORT

Authors:
P.G. Antony [1]
Vimalraj R[2]
Bobby John[3]
Shiney Dominic[4]

[1] Assossiate Professor,
Dept. of Oral & Maxillofacial Surgery
Govt. Dental College, Kottayam.

[2]Senior Resident,
Dept. of Oral & Maxillofacial Surgery
Govt. Dental College, Kottayam.

[3]Assisstant Professor,
Dept. of Oral & Maxillofacial Surgery
Govt. Dental College, Kottayam.

[4]Assossiate Professor,
Dept. of Oral & Maxillofacial Surgery
Govt. Dental College, Kottayam
Email: vimal1286@gmail.com

ABSTRACT

Dentigerous cysts are thought to be caused by a developmental abnormality derived from the remnants of the tooth forming organ. Most common site of dentigerous cysts are those associated with impacted third molar teeth of the mandible, but rarely involve impacted supernumerary teeth in the anterior maxilla which account for 5% of all dentigerous cysts. Dentigerous cyst associated with bilaterally impacted supernumerary teeth is still a very rare entity. Swelling or pain may be the major complaints of the patient. In this case of discussion, radiographic examination reveals bilaterally impacted supernumerary surrounded by a large corticated radiolucency. A provisional diagnosis of infected odontogenic cyst was made. The cyst was enucleated along with the removal of the bilateral supernumerary teeth. Histopathological examination confirmed the diagnosis of infected dentigerous cyst .The patient remained asymptomatic, and no complications were noted.

Key words: Dentigerous cyst, supernumerary teeth.

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INTRODUCTION:

Dentigerous cyst, also known as follicular cyst, is an odontogenic cyst caused by fluid accumulation between the reduced enamel epithelium and the enamel surface of a formed tooth[1]. It is thought to be a developmental abnormality derived from the reduced enamel epithelium of the tooth forming organ and most frequently found in individuals in the age group between 20 and 40 years. Most common site of the dentigerous cysts are those associated with the third molar teeth of the mandible, followed by maxillary third molars, maxillary canines and premolars of both maxilla and mandible. They are occasionally associated with supernumerary teeth. Stafne first described dentigerous cysts associated with supernumerary teeth and found an incidence of 5.5% among 200 supernumerary teeth . Most supernumerary teeth are noted in the anterior maxillary region.

This case report describes a rare entity of dentigerous cyst associated with bilaterally impacted supernumerary teeth.

CASE REPORT

A 22 year old male reported to our Department with missing and mal alingned upper front teeth. On clinical examination upper left lateral incisor was palatally erupted, rotated right lateral incisor, mesially angulated upper left central incisor (fig.2).There was a small bulge in upper labial vestibule. On palpation it was non tender, soft in consistency and thick chocolate colour fluid obtained on aspiration. There was no mobility of anterior teeth.

Radiographic examination with occlusal radiograph and OPG showed a unilocular radiolucent area mesial to upper central incisors extending to palatal area with size 1x1cm, and with smooth sclerotic margins (fig 3). Provisional diagnosis was dentigerous cyst since the histopathology report of the aspirated fuid had more protein content. Then we planned for enucleation and curettage under local anaesthesia.

Fig.1 Pre operative exra oral photograph

Fig 2 Pre operative intra oral photograph showing labial swelling in vestibular region

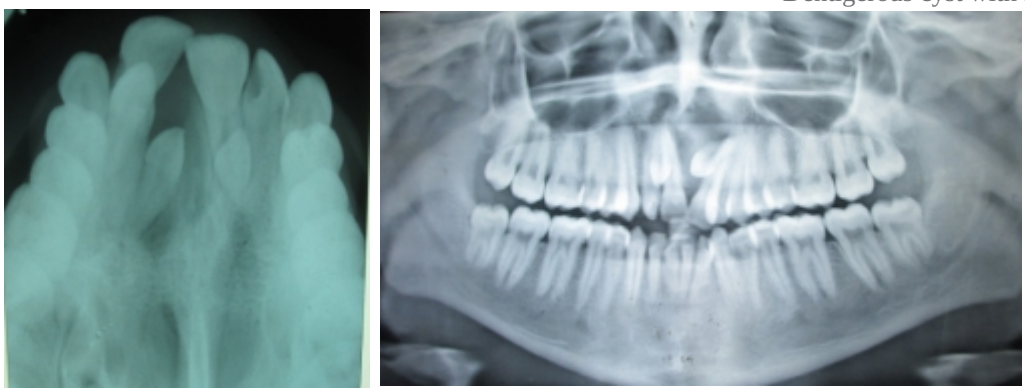

Fig 3. Maxillary occlusal and OPG showing a well corticated radiolucency in relation to upper central incisor and bilateral impacted supernumerary.

PROCEDURE

Patient positioned supine,site painted with betadine and infiltrated with local anesthetic solution. Intra oral crevicular with vertical releasing incision placed over upper left lateral incisor region extending to opposite side lateral incisor. Mucoperiosteum elevated and cyst identified.The supernumerary on left side was identified first which was on the labial side (fig.4)and the other one was found in the palatal side between the right central and lateral incisor (fig.5).Cyst was removed completely with lining and the two supernumerary teeth which was found attached with the cystic lining (fig.7).Specimen was send for histopathological examination and report came as dentigerous cyst.

Fig 4 Cyst and one of the supernumerary on the labial side

Fig 5. supernumeraryin palatal region

Fig 6. Cystic cavity after enucleation and curettage

Fig 7. Enucleated cyst along with supernumerary attached to lining

Fig 8. Closure with 3-0 silk

DISCUSSION

Dentigerous cyst is the second most common type of odontogenic cyst and is always associated with the crown of an impacted, embedded, or otherwise unerupted tooth. Dentigerous cysts are typically asymptomatic and may be large, destructive, expansile lesions of bone[1]. The highest incidence of dentigerous cysts occurs during the second and third decades. However, in our case it was diagnosed at a much earlier age. It usually occurs in the mandible and is known to be both unilocular and multilocular and causes apical resorption of the adjacent teeth. The diagnostic feature is by the presence of the unerupted tooth in its cavity, which in this case was bilateral supernumerary teeth.

Dentigerous cyst formation is another problem that may be associated with supernumerary teeth. Primosch reported an enlarged follicular sac in 30% of his cases, but the histological evidence of cyst formation was found in only 4-9% of the cases[1].According to Asaumi et al, dentigerous cyst formation arising from the supernumerary teeth comprises 11% of cases. A further study found that 6% of supernumerary teeth have dentigerous cyst development, and Hurlen etal suggested that dentigerous cysts associated with the supernumerary teeth occur in 7% of cases[8,9].

Radiographically, the dentigerous cyst typically appears as a well-circumscribed, unilocular, usually symmetric radiolucency around the crown of an impacted tooth. An important diagnostic point is that this cyst attaches at the cementoenamel junction. The internal aspect of the cyst is completely radiolucent except for the crown of the involved tooth. One of the most difficult conditions to distinguish in the differential diagnosis is hyperplastic follicle. Other conditions that must be excluded in the diagnosis are odontogenic keratocyst, ameloblastic fibroma, and cystic ameloblastoma[7].

Intra oral periapical radiograph, Water's view and panoramic view are simple and inexpensive methods that can be used in daily practice. The structure of a tooth can be clearly detected on panoramic radiographs. Therefore, panoramic radiographs are preferred over CT. Although the structure of a tooth can be clearly detected on panoramic radiographs, they are inadequate for localizing maxillary ectopic teeth due to their inherently less sharp image and ghost image. CT scan provides superior bony detail, allowing for the visualization of the size and extent of the lesion with determination of orbital or nasal invasion or involvement[1]. Therefore, CT may be more valuable than plain film radiographs, not only for definitive diagnosis, but also for evaluation of the associated pathology, exact localization of the ectopic tooth, and proper treatment planning.

A broad range of conditions may lead to a clinical presentation of painless swelling along the lingual surface of the palate or on the upper lip. Differential diagnosis of a median palatine cyst, nasopalatine duct cyst, radicular cyst, odontogenic keratocyst (OKC) or adenomatoid odontogenic tumor (AOT) were considered in our case. Median palatine cysts and nasopalatine duct cysts are not associated with non-vital teeth as they are non- odontogenic cysts of the hard palate[13, 14]. Most radicular cysts appear as round or pear-shaped, unilocular, radio lucent lesions in the periapical region, and the associated tooth usually has a deep restoration or large carious lesion radiographically[14]. Approximately 40% of OKCs contain an impacted tooth, and the lumen of the cyst often contains 'cheesy' material and has a parakeratinized epithelium lining. They are more likely to show aggressive growth than other odontogenic cysts and may have undulating borders and a multilocular appearance on radiograph[15]. Approximately 75% of cases are associated with an unerupted tooth, and the most common location is in the anterior maxilla. AOTs are more common in young people, affect females more than males and, most importantly, the radiolucency in cases of AOTs extends apically beyond the cementoenamel junction[16].

The standard treatment for a dentigerous cyst is enucleation and extraction of associated impacted or unerupted tooth. However, large lesions can be marsupialised. Histologically, dentigerous cysts are lined by a layer of nonkeratinized stratified squamous epithelium, with a surrounding wall of thin connective tissue containing odontogenic epithelial rests.

CONCLUSION

In summary, although a dentigerous cyst associated with impacted permanent teeth is not uncommon, such development as a result of an impacted supernumerary tooth might be rare. Dentigerous cysts arising from impacted supernumerary teeth in the anterior maxilla should be considered in the differential diagnosis for painless swelling along the lingual surface of the palate or on the upper lip. To prevent the development of a dentigerous cyst and to avoid unwanted effects on adjacent teeth, early detection consisting of a thorough clinical and radiographical examination is necessary for accurate diagnosis and proper treatment planning.

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TREATMENT OF A CLASS 2 FURCATION DEFECT USING XENOGRAFT AND RESORBABLE GTR MEMBRANE

Authors:
Ashitha Mohandas[1]
Angel Jacob[2]
Jayachandran P[3]
Mohammed Shareef[4]

[1] PG Student,
Dept of Periodontics,
Amirtha School of Dental College,
Edappally, Ernakulam.

[2]Professor,
Dept of Periodontics,
Amirtha School of Dental College,
Edappally, Ernakulam.

[3]Prof & HOD,
Dept of Periodontics,
Amirtha School of Dental College,
Edappally, Ernakulam.

[3]Reader,
Dept of Periodontics,
Amirtha School of Dental College,
Edappally, Ernakulam.

Address for correspondence:

Dr. Ashitha Mohandas
PG StudentDept of Periodontics,
Amirtha School of Dental College,
Edappally, Ernakulam,
Email : ashitham@gmail.com

ABSTRACT

Periodontal regeneration in furcation defects is one of the most challenging goals of a periodontist. Here we describe a case report of a successful surgical management of a class 2 furcation defect in a mandibular molar of a 21 year old man. This case report evaluates the efficacy of using xenograft along with resorbable membrane for guided tissue regeneration in furcation defects. The patient reported with a chief complaint of pain and swelling in his right lower back tooth. On clinical and radiographic examination a class II furcation defect(Glickman's classification) was observed. After phase 1 therapy ,the flap was reflected and furcation area was debrided. Xenograft was placed into the defect and covered with resorbable collagen membrane and sutured. At the end of 4 months a significant bone fill was seen in the furcation defect thus improving the prognosis of the tooth.

Key words: Furcation defect, xenograft, GTR.

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