ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at:www.ijdsir.com

Volume – 7, Issue – 4, August – 2024, Page No. : 57 - 61

Unusual Presentation of Dentigerous Cyst in Anterior Maxilla

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Citation of this Article: Priya Sinha, Archana Sudheer, Anjali Kumari, Wagisha Barbi, "Unusual Presentation of Dentigerous Cyst in Anterior Maxilla", IJDSIR- August – 2024, Volume –7, Issue - 4, P. No. 57 – 61.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Dentigerous cyst, is a common odontogenic cyst associated with an impacted tooth. It develops from remnants of reduced enamel epithelium around the crown of an unerupted or impacted tooth, attached at the level of the cementoenamel junction. It is the second most common odontogenic cyst (second only to the periapical cyst) making up approximately 20% of all epithelial lined cysts of the jaws. Dentigerous cysts are found to occur in the mandible more frequently than the maxilla (75%). The highest incidence of DCs occurs during the second and third decades with a slight male predilection. It occurs most frequent associated with impacted or unerupted mandibular molar followed by maxillary molar, impacted canine and mandibular premolars, rarely it is found in associated with odontoma, deciduous teeth and supernumerary teeth. This article represents a report of a case of dentigerous cyst associated with impacted supernumerary teeth in anterior maxilla in a middle age male patient.

Keywords: Supernumerary teeth, Dentigerous cyst, Enucleation, Radiograph.

Introduction

Dentigerous cysts are the most common of the developmental odontogenic cysts of the jaws and account for approximately 20-24% of all the epithelium-lined jaw cysts.[1]It is characterized by surrounding the crown of an unerupted or developing tooth, which is attached to the tooth's neck at the cementum-enamel junction. Although its pathogenesis is uncertain, it has been suggested that the pressure by an erupting tooth in the follicle may obstruct venous flow by inducing the accumulation of exudate between the reduced enamel epithelium and the crown of the tooth.[2]

Radiographically, it is very difficult to differentiate between a normal enlarged pericoronal space and a cyst; if the width of this space has reached more than 2.5mm and has an irregular outline then it is probably a dentigerous cyst.[3]The incidence of dentigerous cysts in males is reported to be twice that of females and most

commonly occurs in second or third decade of life due to various number of factors and metabolic process involving growth and development of the individual are ongoing in those decades; while the third decade is closely associated with the eruption of the third molars.[4] Here we are presenting a report of case of 45 year old male with dentigerous cyst associated with impacted supernumerary tooth in anterior maxilla.

Case Report

A45 year old male patient visited to the department of Oral Medicine and Radiology with the chief complain of swelling in left front region of face since 10 months (figure 1). The swelling gradually increased in size over the time period of 10 month resulting in facial asymmetry. He did not give any history of pain or serosanguinous discharge associated with the swelling.

Clinical examination

The extraoral examination of patient revealed facial asymmetry due to swelling in the left side of the face (figure 1). On inspection, there was single unilateral well-defined swelling obliterating the nasolabial fold was seen extending medio-laterally from the bridge of nose till 2cm anterior to the lateral canthus of eye and supero-inferiorly from 1cm below the medial canthus till the 0.5cm below the ala of nose. Size of the swelling measures approximately 4x3.5mm. The skin overlying swelling appears smooth stretched and shiny with no any secondary changes seen. On palpation, swelling was non tender, firm to hard in consistency, non-compressible and non-fluctuant.

During intra oral examination, visual inspection revealed Single, unilateral well defined oval shaped swelling was present in left maxillary posterior vestibular sulcus extending from mesial aspect of 22 till the mesial aspect of 24. Mucosa overlying swelling appears bluish black in colour. Size of the swelling appears approximately 2x1.5cm (figure 2). On palpation, Swelling was non tender, non-compressible oval in shape and bony hard in consistency. Size of swelling measures 2x1.5cm. mild expansion of labial cortical plate was present. There was no missing teeth present in the maxillary arch.

Investigation

On chair side investigation, 11 to 26 were found to be non-vital on electric pulp test. An ortho pantomogram was advised which revealed a well circumscribed homogenously radiolucent lesion with a corticated border extending from the mesial aspect of upper right permanent lateral incisor till the mesial aspect of permanent first premolar (figure 3). An impacted supernumerary tooth could be seen associated with the lesion which was placed horizontally in antero-posterior direction. The impacted supernumerary tooth lies in close proximity with the apical 1/3rd of the root of 21. Root resorption of 21 could be seen. Further, the CBCT scan was advised which confirmed the above mentioned findings of OPG. CBCT scan revealed perforation and expansion of labial and palatal cortical plate and nasal floor.

All the hematological parameters were under normal parameter. Fine needle aspiration was performed and it showed negative aspiration. The provisional diagnosis of adenomatoid odontogenic tumour was given based on site, and a differential diagnosis of dentigerous cyst, odontogenic keratocyst, calcifying epithelial odontogenic tumour, globulomaxillary cyst was given based on radiographic findings.

Based on the provisional diagnosis and extent of lesion, surgical enucleation was performed into to under local anaesthesia along with the entire cystic linning and impacted supernumerary teeth (figure 4). Since there was significant root resorption of left permanent central incisor due to the lesion, it was extracted. Thorough

curettage was done followed by irrigation using betadine diluted with saline. Hemostasis was achieved post curettage and irrigation. The incised region was closed using 3-0 vicryl with simple interrupted suture given as required. Patient was kept under antibiotic coverage with post-operative instructions given and was followed up regularly. The specimen was sent for histopathological examination.

Histopathological findings revealed 2-3 cell layer stratified squamous non keratinized epithelium, dense chronic inflammatory cell infilterate, linear irregularly arranged Ruston bodies. All the above findings suggest the diagnosis of Dentigerous cyst in relation to impacted supernumerary teeth in anterior maxilla.

Discussion

The term "dentigerous cyst" was coined by Paget in 1853. It constitute about 20% of all jaw cysts. It is always associated with the crown of an impacted, embedded or unerupted tooth and it may also be found enclosing a complex compound odontoma or involving a supernumerary tooth.[6]Approximately 5% of dentigerous cyst presents with supernumerary teeth which is same as in our case.[2]The exact aetiology of supernumerary teeth is still unknown but it can be a result of local, independent or conditioned hyperactivity of dental lamina. It occurs most commonly in second to third decade of life which is contrary to our case where the patient belonged to middle age group.[7]Here are only few literature which supports that the prevalence of the dentigerous cyst due to a supernumerary tooth occurs in the first four decades of life.[2]Dentigerous cysts associated with supernumerary teeth in the premaxilla are easily diagnosed radiographically due to their radiopaque image on maxillary occlusal radiograph or orthopantomogram.[8]Radiographically, dentigerous cyst may appear as well-defined unilocular or multilocular radiolucency enclosing the crown of an unerupted tooth. The radiolucency usually arises in the cemento-enamel junction of the tooth.[5]Radiographic types of dentigerous cyst are seen:

1. Central variety: In this variety the radiolucency surrounds the crown of the unerupted teeth. The crown can clearly be seen projecting into the cyst lumen.
2. Lateral variety: In this variety the cyst develops laterally along the tooth root, partially encircling the crown.
3. Circumferential variety: The cyst entirely surrounds the unerupted teeth. Radiologically, the unerupted teeth could be seen within the cyst cavity.[3]It often cause root resorption of involved or affected teeth, hydraulic expansion, cortication and displacement of adjacent anatomical structure.

Histopathological findings showed 2-4 layers of smooth nonkeratinized cells, Ruston bodies etc.[9]The entire cyst was surrounded by a connective tissue wall. The surrounding fibro collagenous wall showed a dense chronic inflammatory infiltrate. The infiltrate consisted of lymphocytes mainly.[4]

Enucleation is the standard treatment for a dentigerous cyst along with extraction of the associated supernumerary tooth.[8]

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Legend Figures

Figure 1:

Figure 2:

Figure 3:

Figure 4:

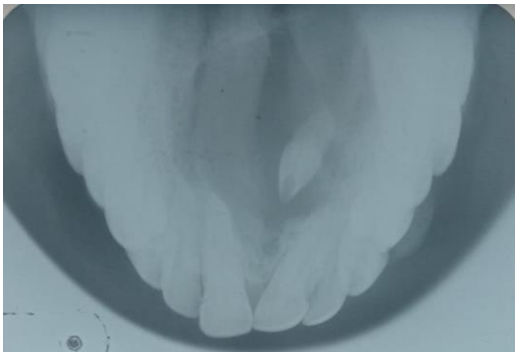

Figure 5:

Figure 6:

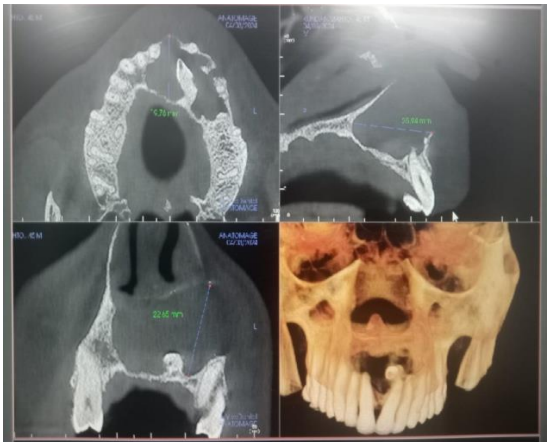

Figure 7:

Figure 8: