RADICULAR CYST A CASE REPORT

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Abstract
The radicular (periapical) cyst is the second most common pulp-periapical lesion. It is most common of all odontogenic cysts. However it is rarely associated with deciduous teeth. This case repot presents a case of radicular cyst in relation to maxillary first deciduous molar with associated with unerupted first premolar.
Keywords: Maxillary primary molar, Radicular cyst, Unerupted first premolar, Unilocular

Introduction

Radicular cyst or residual cysts, also called as periapical cyst, apical periodonatal cyst, root- end cyst or dental cyst are the most common amongst the lesions of inflammatory origin. Radicular cysts are rare in the primary dentition, with an incidence of 0.5-3.3% of the total number in both primary and permanent dentition.[1] They are most commonly found at the apices of the involved teeth, however, they may occur on the lateral aspects of the roots in relation to lateral accessory root canals. Radicular cysts are direct sequel to chronic apical periodontitis but not every chronic lesion develops into a cyst.[2] Radicular cysts are usually asymptomatic and are left unnoticed, until detected by routine radiographic examination. Whereas some of them grow and cause mobility and displacement of teeth if infected leading to pain and swelling. The swelling is slowly enlarging and initially bony hard to palpate which later becomes rubbery and fluctuant.[3,4] Definitive diagnosis must be based upon the clinical, radiographic, and histological evaluation. The treatment options for radicular cyst can be conventional nonsurgical root canal therapy or surgical treatment such as enucleation, marsupialization, or decompression when the lesion is localized and large.[5]

Case report

An 8 year old male patient (Figure 1) presented to the department of pediatric and preventive dentistry, TMDC & RC, TMU with painless swelling of the left side of upper jaw for the past 6 months. It was gradually increasing in size. There were no complaints of bleeding discharge, numbness or mobility in the same region.

Figure 1: *Extra-oral photograph*

On extraoral examination, there was a swelling approximately 2cm x 3.5cm on the left posterior region of maxilla. The overlying skin appeared normal. Intraoral examination showed bluish red gingival with no sinus opening and diffuse hard swelling irt 64 which was decayed. (Figure 2) Based on the above features, provisional diagnosis of odontogenic cyst was made.

Figure 2: *Preoperative photograph*

A detailed radiographic examination was carried out to determine the extent of the lesion. Occlusal radiograph revealed a well-defined unilocular radiolucency in the left side of the maxilla extending from mesial aspect of 22 to mesial aspect of 65 region. The radiolucency had sclerotic borders and extended from floor of maxillary sinus of the maxilla (Figure 3).

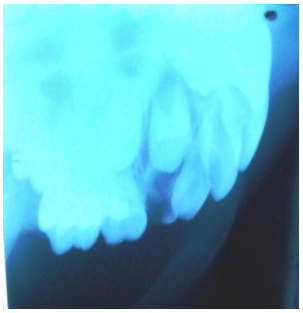

Figure 3: *Occlusion radiograph showing radiolucency irt 64*

In addition, the intraoral radiograph displayed expansion of the buccal side (Figure 4).

Figure 4: *IOPAR irt 63,64,65 region*

Based on the clinico radiographic correlation, radicular cyst, dentigerous cyst, odontogenic keratocyst and unicystic meloblastoma were considered under differential diagnosis. The cystic lesion was surgically enucleated under local anaesthesia (Figure 5) and the surgical specimen was sent for histopathological investigation. The postoperative healing was uneventful with no signs of recurrence(Figure 8).

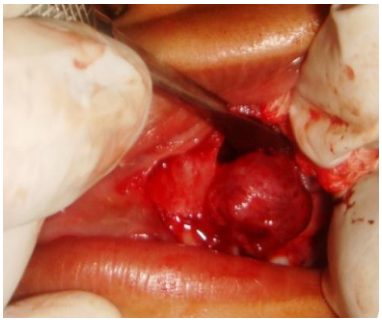

Figure 5: *Enucleation of the cyst done*

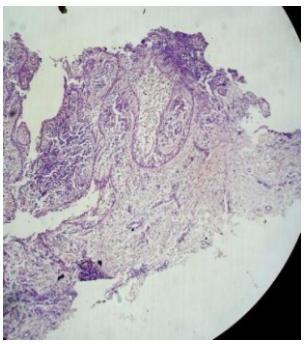

Figure 6: *Histopathology picture at 10x*

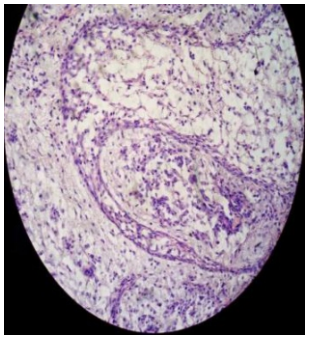

Figure 7: Histopathology picture at 40x

Histopathological Findings

Histopathological examination (Figure 6&7) revealed a cystic lining is non-keratinized stratified squamous exhibiting proliferating and arcading pattern. Correlating with the clinical and radiographic findings, a diagnosis of radicular cyst associated with right maxillary primary molar was made.

Discussion

The radicular (periapical) cyst is the second most common pulpoperiapical lesion which arises from the epithelial residues in the periodontal ligament as a result of inflammation.

Figure 8: Post-operative photograph

Occur more commonly between third and fifth decades, more common in males than in females, and more frequently found in the anterior maxilla than other parts of oral cavity.[6] There are several differences between radicular cyst arising from primary teeth and permanent teeth.

Radicular cysts of primary teeth are located in the interradicular area and around the roots whereas those of permanent teeth are found at the apex. This may be due to the presence of accessory canals and short partially resorbed roots of primary teeth.[7]

Increased prevalence of radicular cyst in the primary dentition is seen in the mandibular arch because these teeth are frequently involved by caries and caries is the most common etiological factor for the occurrence of these cysts. In permanent teeth, maxillary incisors are frequently involved due to trauma, caries and old silicate restorations.[8]

Histologically, there is no difference between the cysts of primary teeth and those of permanent teeth except for rarity of cholesterol crystal slits in primary teeth cysts. This is due to the fact that the lesion associated with the primary teeth exist for shorter duration before removal in comparison to permanent teeth.

The prevalence of radicular cyst is higher than that reported in literature because

a. Radicular radiolucency related to primary teeth tends to be neglected and are resolved after removal of the tooth.[8]
b. Radicular infections drain more readily through sinus/fistula formation causing less severe symptoms[7] and the antigenic stimuli, which evoke the changes leading to formation of radicular cysts may be different.[1]
c. Unlike cyst of permanent teeth, primary teeth are extracted but not submitted for histopathologic examination.[7]
d. Regression of the lesion after endodontic treatment.[9]

Conclusion

A radicular cyst is a condition which usually goes unnoticed and rarely exceeds the palpable dimension. Untreated cases may lead to facial deformity and tissue destructions. The current concept in management of

radicular cysts is using nonsurgical means. However, depending on size and extent of lesion, surgical management might be necessary, for achieving success. The present case was managed successfully by enucleation of cyst under local anesthesia.

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