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Radicular Cyst: A Case Report

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ABSTRACT:

Radicular cysts are the most common cyst of jaws that usually involve the periradicular region of the anterior maxilla. The epithelial deposits in the periodontal space develop into this type of inflammatory cyst due to infection of the pulp followed by pulpal necrosis. Management of these cysts are mostly conservative although surgical management is the choice of treatment which may compromise of the vitality of the involved tooth.

Keywords: Cyst, radicular cyst, cyst enucleation.

INTRODUCTION:

Radicular cysts are the one of the most common inflammatory cysts which developed from the epithelial deposits in the periodontal space or as a sequalae of pulpal necrosis. It is usually diagnosed as an accidental finding during routine radiographic investigations since they are asymptomatic in cases of small sized lesion. Radicular cysts are more common in maxilla than in the mandible[1], most commonly in the tooth-bearing region of the jaws. Radicular cysts contribute an incidence of 52% to 68% of all the cysts in the maxillofacial region with male predominanace.[2] These cysts are not very frequently seen in the young patients bearing primary dentition, and reported an incidence of 0.5 to 3.3% out of all the other cysts of jaws found in the young patients.[3,4] Majority of these cysts are reported in the literature in individuals between the third and fourth decade of life.[4]

CASE REPORT:

A 16 year-old young female patient with the chief complaint of mild pain and loosening of teeth in the lower front tooth region reported to the Department of Oral and Maxillofacial Surgery. Patient did not give any history of trauma in the past years or any other history which would cause the loosening of tooth. On examination, there were no specific extraoral findings. Intraorally, there was presence of midline diastema in both the upper and lower anteriors (Fig 1). No sign of gingival swelling or vestibular obliteration present in the region where the patient was complaining of tooth mobility. On palpation, the lower right central incisor and the lateral incisor were presented with grade II mobility with mild tenderness of percussion was observed. An OPG was advised to rule out the presence of any lesion or any

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factors leading to the mobility of the tooth. The OPG reveals a well-defined radiolucency in the periapical region extending from the distal aspect of 31 till the mesial aspect of 43 anteroposteriorly and superoinferiorly extending from the apical one-third of 42, 42 till 10mm below the root apex of 41 and 42 (Fig 2). A differential diagnosis of periapical granuloma or radicular cyst was made. A minor surgical procedure of enucleation of the lesion followed by extraction of periodontically weak 41 and 42 was planned under local anesthesia. Patient was prepared under asepsis protocol. A crevicular incision was given including the mesial papilla of 32 till the distal papilla of 43. A full thickness labial and lingual mucoperiosteal flap was raised followed by extraction of 41 and 42 was done. The buccal flap was further exposed till the entire lesion was exposed (Fig 3). The lesion was then separated from the cortical bone taking care not to damage the lining of the lesion. A lesion measuring (15 x 10) mm was obtained which was later given for biopsy (Fig 4). The bony defect was rounded off using SS white HP 6 round bur with copious saline irrigation (Fig 5) and the flap was closed primarily with the help of 3-0 silk suture (Fig 6). The healing was uneventful and the patient routinely evaluated on different intervals.

Fig 1: Preoperative intraoral picture

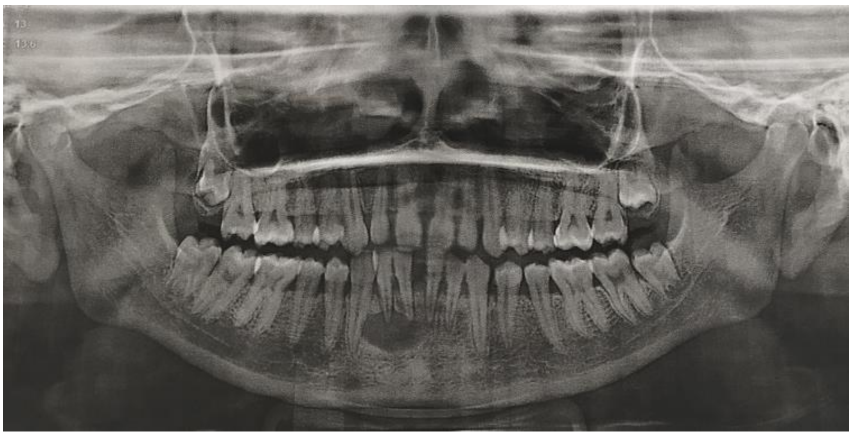

Fig 2: Preoperative OPG

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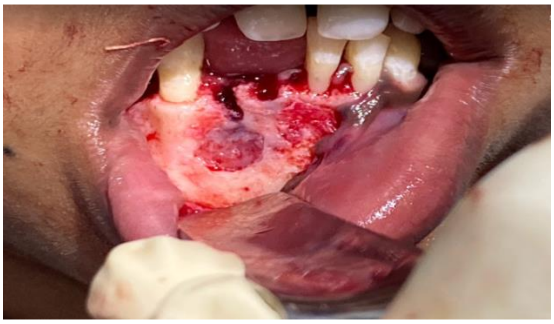

Fig 3: post extraction socket of 41, 42 and exposure of the periapical lesion involving the labial cortical plate.

Fig 4: the enucleated periapical lesion

Fig 5: periapical defect after enucleation

Fig 6: post operative healing of the intraoral suture site.

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DISCUSSION:

Majority of cases of radicular cysts reported in literature in the maxillary anterior in male population in their 3rd decade to 5th decade of life. They are mainly associated with nonvital teeth and sinus leading to formation of cyst. [6] Unlike the majority of cases reported in the literature, we presented a female young patient who was diagnosed with radicular cyst associated with a vital tooth. Initially, when these lesions are associated with swelling, they are bony rigid however, they eventually develop bone resorption. They usually do not cause root resorption but are nonvital. The cystic cavity is generally filled with brownish or straw coloured fluid.[1,3,4]

Management of these lesions depends on various factors such as size and site of the lesion, involvent of the cortical bone and its proximity to any vital anatomical structure.[3] Therefore, treatment options performed are generally endodontic treatment in cases of smaller size lesions whereas in larger size lesions, enucleation or marsupialization is perfomed.[7,8] The enucleated bony defects are supposed to be substituted with blood clot which will enhance the healing of defects. However, in cases treated with marsupialisation, internal pressure of the cystic cavity is released leaving the lining of the cyst in contact with the inner surface of the bony defect. This method of treatment requires frequent follow up for evaluation which is time consuming and rarely acceptable by the patients.[3] Adopting different methods of treatment for management of these lesions are reported in the literature, where we find enucleation as the most logical and practical way of managing our particular case, considering the size and location of the defect.

CONCLUSION:

Early recognition for radicular cyst is usually not possible due to its asymptomatic nature, therefore, a routine dental checkup with proper evaluation and discussion of the findings may help to eliminate greater loss if treated earlier.

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