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A Case Report on Radicular Cyst

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ABSTRACT
Radicular cyst is the most common cyst which affect the jaw. They are most common among all jaw cysts which affects almost 68%. They affect the apex of the infected teeth. Radicular cyst involves the epithelial cells and mostly symptomless in initial stage and incidentally diagnosed with radiographs. The treatment basically involves surgical intervention, biopsy and enucleation. Here a case of radicular cyst is discussed which was successfully corrected with surgical interventions.
Keyword: enucleation, radicular cyst

I. INTRODUCTION:

Periapical cyst , also known as radicular cyst is the commonest odontogenic cyst arising from epithelial residues (cell rests of Malassez) in the periodontal ligament as a consequence of inflammation, usually following the death of the dental pulp. Although initially asymptomatic, they are clinically significant because secondary infection can cause pain and damage. [1]In radiographs, the cyst appears as a radiolucency (dark area) around the apex of a tooth's root.

Secondary symptoms of periapical cysts include inflammation and infection of the pulp causing dental caries. This infection is what causes necrosis of the pulp.

Larger cysts may cause bone expansion or displace roots. Discoloration of the affected tooth may also occur. Patient will present negative results to electric and ice test of the affected tooth but will be sensitive to percussion. Surrounding gingival tissue may

experience lymphadenopathy.[2]

II. CASE HISTORY

A 28 year old male patient was referred by a general practitioner to the department of Dentistry in a Tertiary Care Hospital in Odisha with a chief complain of mild pain and pus discharge in relation to the upper back tooth palatal region . On clinical examination there was a massive palatal swelling with pus discharge extending from teeth 14 to 24, crossing the midline of the palate. Dental history revealed a repeated prescription of antibiotics and analgesic at private dental clinics for the same persistent swelling since 8 months . Medical history was not significant . On palpation the lesion was soft and fluctuant. Lymph nodes were non palpable.

Investigation

The patient was advised for Cone Beam CT, but he was unwilling for CT , as he was student and had financial problems . Hence he was advised for orthopantomograph (OPG), intraoral-periapical radiograph, maxillary occlusal radiograph and routine laboratory investigations.

Radiographic examination revealed a large unilocular radiolucency with well defined radiopaque border . Routine laboratory investigation were within normal range . FNAC revealed turbid brown colour fluid ,consisting inflammatory cells with few isolated epithelial cells. Cytological picture was suggestive of an acute inflammatory lesion.

Based on clinical , radiological and analysis of aspirate a provisional diagnosis of an infected radicular cyst was made . After surgical enucleation and biopsy , histopathological picture revealed case of radicular cyst.

Treatment

A patient was advised for surgical excision and biopsy. Intact bone was present all around the apices of adjacent teeth, hence no post-operative endodontics treatment was needed . Excised tissue was sent for histopathological investigation. Necessary prescriptions and post operative instructions were given.

Follow up

Post-surgical follow up after 15 days showed considerable reduction in the size of swelling with healing of surgical site . At 6 months follow up , no recurrence was observed and orthopantomograph revealed a new bone formation at the site of cystic lesion . The other teeth remained vital . No need for endodontic treatment .

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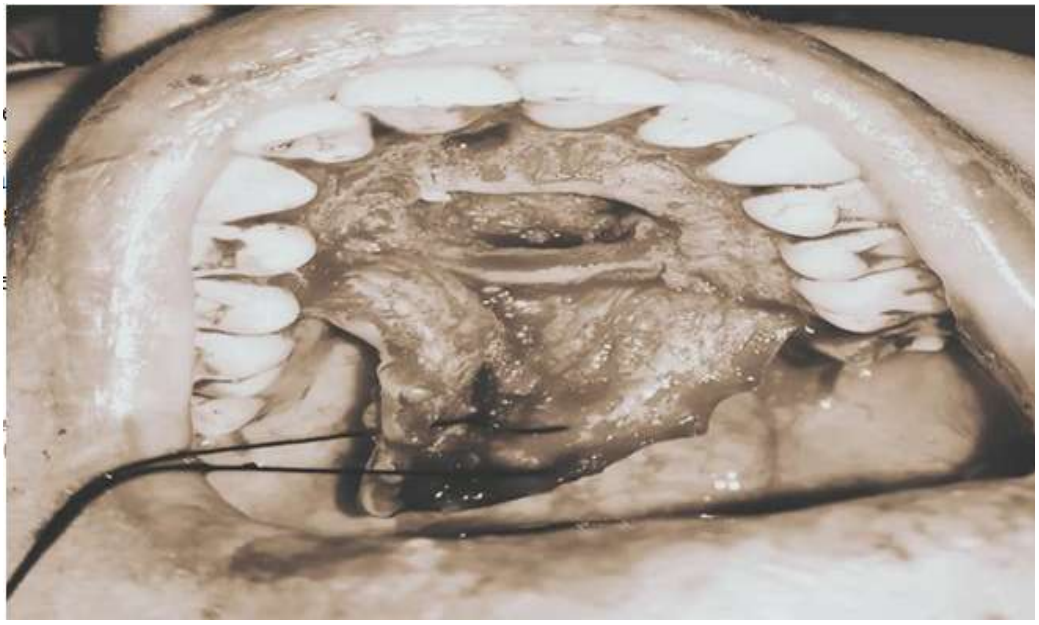

Figure1: Surgical repair of Radicular Cyst Discussion

A radicular cyst is generally defined as a cyst arising from epithelial residues (cell rests of Malassez) in the periodontal ligament as a consequence of inflammation, usually following the death of the dental pulp.Radicular cysts are the most common odontogenic cystic lesions of inflammatory origin affecting the jaws. They are most commonly found at the apices of the involved teeth; however, they may also be found on the lateral aspects of the roots in relation to lateral accessory root canals.[3]

Radicular cysts are the most common cystic lesions which affect the jaw. They are most common of all the jaw cysts and comprise about 52% to 68% of all the cysts which affect the human jaw [3,4]

Cysts constitute about 17% of all the tissue specimens submitted to oral pathology biopsy services. The periapical cyst is the most common odontogenic cyst (52.3–70.7% of all odontogenic cysts) followed by the dentigerous cyst (16.6–21.3% of all odontogenic cysts) and odontogenic keratocyst (5.4–17.4% of all odontogenic cysts)[1]

They arise from epithelial remnants which are stimulated to proliferate, by an inflammatory process which originates from pulpal necrosis of a non-vital tooth. The natural history begins with a non-vital tooth which remains in situ, long enough to develop chronic periapical pathosis[5]

The choice of treatment may be determined by factors such as the extension of the lesion, relation with noble structures, origin, and clinical characteristics of the lesion, and co-operation and systemic condition of the patient. The treatment of these cysts is still under discussion and many professionals opt for a conservative treatment by means of endodontic therapy[6,7]

Radicular cysts generally originate after trauma or dental caries. Dental caries cause inflammation of the pulp cavity, leading to pulp. necrosis . The infection then spreads to the tooth apex of the root, causing periapical periodontitis, which leads to either an acute abscess or a chronic granuloma. Persistent chronic infection can lead to formation of a periapical cyst [8]

In the present case the cyst was in the extending from teeth 14 to 24, crossing the midline of the palate. Surgical excision was done as mode of treatment and after 6 month of follow up no recurrence was observed in orthopantomograph.

III. CONCLUSION

Radicular cyst is the most common among all affecting maxillofacial area. In current case we discussed a case of 28 year old patient with radicular cyst. In this case surgical intervention of management is more emphasized . it is always symptomless in primary stage , later the patient was diagnosed after biopsy and radiographic examination revealed a large unilocular radiolucency with well defined radiopaque border. Surgical excision was done and there is no history of recurrence in the later time follow up.

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