

## Management of Radicular Cyst: A Clinical Case Report

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Received - 8 May 2019

Initial Review – 14 May 2019

Accepted – 2 June 2019

### ABSTRACT

A radicular cyst defined as a cyst of inflammatory origin arises from epithelial rests of malassez in periodontal ligament due to inflammation of the dental pulp. The cyst begins with carious tooth and further involved periapical and periodontal region. Majority of these lesions engross the whole apex and appear as precise radiolucencies. The cystic lesion lined with the epithelium, which filled with fluid; therefore, they generally referred to as a true cyst. Various mode of treatment available for radicular cyst management including surgical and no-surgical procedures, in this case report we present surgical management of radicular cyst followed by root canal treatment.

**Keywords:-** Radicular cyst, root canal, transposition, inflammatory odontogenic cysts

All odontogenic cysts generally classified into developmental and inflammatory origin based on their etiopathogenesis. Radicular and lateral periodontal cyst comes under inflammatory odontogenic cysts. Radicular cysts are inflammatory cysts of tooth-bearing areas of the jaws [1] originated from an epithelial rest of Malassez in periodontal ligaments due to inflammation and frequently found at the apex of the infected tooth [2,3]. They are most frequent amid all the jaw cysts and encompass about 52% to 68% cystic lesions affected human jaw [4]. Radicular cysts not noticed commonly until diagnosed by regular radiographic examination although in some cases chronic/ long-standing lesions result in acute exacerbation of the cyst which associated with swelling, pain and pus discharge [5,6]. In the maxilla, it clinically associated with amplification of buccal and palatal cortical plate whereas in mandible allied with enlargement of buccal cortical plate and rarely lingual [7,8]. Various mode of treatment available for radicular cyst management including surgical and no-surgical procedures, in this case report we present surgical

management of radicular cyst followed by root canal treatment.

### CASE REPORT

A 25-year female patient reported in a private dental clinic with the chief complaint of mild pain, numbness and pus discharge from the upper front region since 2-3 years. The dental history of the patient revealed that she had a history of trauma 3-4 years back due to this she got a fracture in her upper front teeth and compromised periodontium. Since that, she took repeated dosages of antibiotics and analgesics prescribed by a local chemist. On intraoral examination, we found swelling in the buccal area extending from 11 to 12, and pus discharge from the palatal area of 11 and 12, mesioproximal caries found in relation to 11 and 12. Electric pulp tester (PARKELL, NY11735) and thermal pulp test with heat & cold performed to check the vitality, in which 11 and 12 found non-vital and the rest nearby teeth were vital. On palpation, the lesion was soft and fluctuant. Lymph nodes

were non-palpable. The oral hygiene of the patient was not satisfactorily good; calculus and bleeding on probing were present.

As the patient was not able to pay for cone beam computed tomography (CBCT), we advised for orthopantomography (OPG), intraoral periapical radiograph (IOPA) and routine laboratory investigations. On radiographic examination well defined, 4-5 mm radiolucency found in relation with 11 and 12 (figure 1). All routine laboratory investigations found within normal permissible limits. Cytological picture of lesion suggested of an acute inflammatory lesion. Based on clinical, radiological and cytological examination a diagnosis of infected radicular cyst established.



**Figure 1: Orthopantomography of patient**

As to treat, an odontogenic cyst accurate diagnosis is mandatory, thus after establishing the diagnosis of radicular cyst root canal treatment with consecutive calcium hydroxide dressing in relation with 11 and 12 executed along with enucleation of the cyst under local anesthesia. Excised tissue sent for histopathological investigation. The surgical procedure performed under essential antibiotics and analgesics and postoperative instructions were given to the patient. Postsurgical follow-up was done after 15 days elucidated a considerable reduction in swelling and prompt healing. After 3 months follow-up, no reappearance observed than fixed porcelain veneered crown given with 11 and 12.

## DISCUSSION

Inflammatory cysts of jaw originated from residues of

epithelial cells of malassez in the periodontal ligament due to apical periodontitis followed by necrosis of the dental pulp. The prevalence of the radicular cysts in the maxillary jaw is 60%, which is associated with enlargement of the buccal or palatal cortical plate [2]. The selection of treatment of radicular cyst depends upon the annex of the lesion in relation to vital structures, clinical presentation of the lesion, systemic and medical condition of the patient. Various treatment modalities are available for radicular cysts including conventional, nonsurgical RCT in cases when the lesion is small and confined or surgical treatment like enucleation, marsupialization or decompression in case of larger lesions [9]. This case report presents surgical enucleation of a long-standing radicular cyst along with root canal treatment in relation with 11 and 12.

## CONCLUSION

According to this case report conclusion can be made that multiple treatment options available depending on the size and location of the cyst. In case of long-standing chronic lesion endodontic treatment followed by surgical enucleation gives better results however, some authors propose nonsurgical management of small lesions.

## REFERENCES

1. Krishnamurthy V, Haridas S, Garud M, et al. Radicular cyst masquerading as a multilocular radiolucency. *Quintessence Int* 2013;44:71-3
2. Shear M. *Cysts of the oral and maxillofacial regions*. 3rd edn Boston: Wright, 1992
3. Pekiner FZ, Borahan O, Ugurlu F, et al. Clinical and radiological features of a large radicular cyst involving the entire maxillary sinus. *MUSBED* 2012;2:31-6
4. Kadam NS, Ataide IDN, Raghava P, Marina Fernandes M, Hede R. Management of Large Radicular Cyst by Conservative Surgical Approach: A Case Report. *Journal of Clinical and Diagnostic Research*. 2014 Feb, Vol-8(2):239-241
5. Rajendran R, Sivapathasundharam B. *Shafer's Textbook of Oral Pathology*. 6th ed. New Delhi: Elsevier; 2009. p. 487-90. 2.
6. Shear M. *Cysts of the Oral Regions*. 3rd ed. Boston: Wright; 1992. p. 136-70
7. Mass E, Kaplan I, Hirshberg A. A clinical and histopathological study of radicular cysts associated with primary molars. *J Oral Pathol Med* 1995;24:458-61.
8. Nair PN. New perspectives on radicular cysts: Do they heal? *Int Endod J* 1998;31:155-60.

9. Joshi N, Sujan SG, Rachappa MM. An unusual case report of bilateral mandibular radicular cyst. Contemp Clin Dent 2011;2:59–62

**How to cite this article:** Khare A, Dayma A. Management of Radicular Cyst: A Clinical Case Report, J Orofac Res. 2019;8(2):29-31.

*Funding: None; Conflict of Interest: None Stated.*