



ORIGINAL RESEARCH PAPER

Dentistry

INFECTED RADICULAR CYST- CASE REPORT

KEY WORDS:

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ABSTRACT

An inflammatory odontogenic cyst that occurs in the jaw of all tooth-bearing areas is radicular (1). It is a chronic condition that arises from the epithelial rests of malassez present in the periodontium of the affected tooth (2). This article aims to present the clinical features and treatment of the radicular cyst in a 38-year-old male patient complaining of discontinued root canal treatment of the mandibular anterior patient.

INTRODUCTION

Based on the etiology, odontogenic cysts are mainly divided into developmental and inflammatory cysts. (1). Among inflammatory cysts, radicular cysts are the most common occurring due to periapical periodontitis which arises from the epithelial residues in the periodontal ligament. (2). It accounts for about 52.3% of the jaw cyst and 62% of the cyst of odontogenic origin. Mostly occurs in the third and fourth decades of life, and shows male predominance. (3). Primary dentition are rarely associated with radicular cyst, which accounts only for about 0.5-3.3% of the total number of cyst which occur in the primary dentition. (4)

Most commonly affects the apex of the nonvital tooth(5). All the tooth-bearing sites of the jaw are prone to develop a periapical cyst. But frequently affects the maxilla more than the mandibular region. (2). The cyst is usually asymptomatic at clinical evaluation, but swelling with slow growth may be seen in the affected region. (6). On radiographic examination, oval or pear-shaped radiolucency is seen in the periapical region. (7). Enucleation and extraction of a tooth are indicated for a tooth with a very poor prognosis.

CASE REPORT

A 38-year-old man presented to the Department of Oral Medicine and Radiology with the complaint of an aborted mandibular anterior root canal treatment. The patient had no relevant medical or family history. Extraoral examination revealed an incompletely treated root canal 31, 41. There is no evidence of swelling or pain. There is no evidence of mobility or tenderness to pressure with respect to 31,41. The patient was advised to have an intraoral periapical X-ray referred to 31,41.



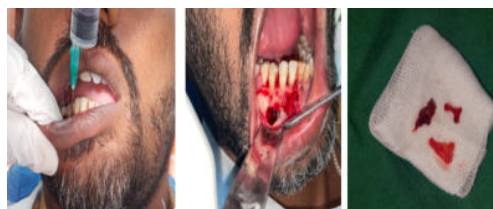
A well-defined radiolucency is present over the apical area of 31, 33, 34, 41, 42, and 44, according to an IOPA. A well-defined radiolucency with a sclerotic boundary can be seen on an orthopantomograph in the periapical area, spanning from a mesial surface of 34 to a mesial surface of 44.



It is determined during radiographic examination that it is an infected radicular cyst. Odontogenic keratocyst and residual cyst are listed as differential diagnoses. The department of oral and maxillofacial surgery received a referral for the patient. An incisional biopsy was suggested for the patient. In addition to cholesterol clefts and the multinucleated giant cell, a biopsy reveals the presence of hyperplastic alterations and the absence of the epithelium in some locations, which may be the result of infection.



The entire connective tissue is dispersed with numerous blood vessels of varying size and also shows dense infiltration of inflammatory cells both acute and chronic types predominantly plasma macrophage and neutrophils. patient referred to the department of endodontics for a vitality test in relation to 31 32 41 42. Pulp vitality test reveals nonvital. patient advised for enucleation followed by endodontic management in relation to 41 42 31 32. Enucleation was done in relation to 31 32 41 42 region and root canal treatment was done in relation to 31 32 42 41.



DISCUSSION

The radicular cyst is otherwise called a periapical cyst, commonly associated with nonvital, carious, and fractured teeth (4). The cyst arises from epithelial residues of the periodontal ligament, due to the presence of necrosed pulp. mostly diagnosed during routine radiographic examination. (!) . the size of the cyst rarely increases more than 1cm and is commonly affected area due to highly traumatic areas., dens in dente , and incomplete root canal treatment. in this case, the cyst involves the lower anterior tooth. (8). It leads to bone resorption and can lead to loss of greater dimension and can even lead to nerve compression(7). On radiographic examination, unilocular round or oval radiolucency is present near the apex of the infected tooth with the presence of a radiopaque sclerotic margin (9). On histopathological study, radicular cyst lined completely stratified squamous epithelium, with the presence of inflammatory infiltrates and hyaline bodies found in the epithelial lining that appears as peculiar eosinophilic, straight or curved, irregular or rounded epithelium known as Rushton bodies are present. (6).

Small cysts are treated by enucleation procedure, the whole cyst including the cystic sac is removed to reduce the chance of recurrence. (10)

REFERENCES

1. Deshmukh J, Shrivastava R, Bharath KP, Mallikarjuna R. Giant radicular cyst of the maxilla. *Case Reports*. 2014 May 2;2014:bcr2014203678.
2. Joshi NS, Sujan SG, Rachappa MM. An unusual case report of bilateral mandibular radicular cysts. *Contemporary clinical dentistry*. 2011 Jan;2(1):59.
3. Sevekar S, Subhadra HN, Das V. Radicular cyst associated with primary molar: surgical intervention and space management. *Indian Journal of Dental Research*. 2018 Nov 1;29(6):836.
4. Uloopi KS, Shivaji RU, Vinay C, Shrutha SP, Chandrasekhar R. Conservative management of large radicular cysts associated with non-vital primary teeth: a case series and literature review. *Journal of Indian Society of Pedodontics and Preventive Dentistry*. 2015 Jan 1;33(1):53-6.
5. Gibello U, Bezzi M, Guaschino L, Della Ferrera F, Appendino P. Radicular Cyst of Jaw: A Case Report. *J Med Case Rep Case Series*. 2022;3:13.
6. Penumatsa NV, Nallanchakrava S, Muppa R, Dandempally A, Panthula P. Conservative approach in the management of radicular cyst in a child: Case report. *Case Reports in Dentistry*. 2013 Feb 17;2013.
7. Kanipakam Y, Arumugam SD, Kulandairaj PL, Muthanandam S. Radicular Cyst (Periapical Cyst): A Case Report. *Journal of Scientific Dentistry*. 2019 Jul;9(2):44.
8. Chybicki D, Lipczyńska-Lewandowska M, Ratajek-Gruda M, Janas-Naze A. Massive radicular cyst in the maxillary sinus as a result of deciduous molar tooth pulp necrosis. *Case Reports in Dentistry*. 2020 Aug 4;2020.
9. Shivhare P, Singh A, Haidry N, Yadav M, Shankarnarayan L. Multilocular radicular cyst—a common pathology with uncommon radiological appearance. *Journal of Clinical and Diagnostic Research: JCDR*. 2016 Mar;10(3):ZD13.
10. Roci B, Dimitrovski O, Ambarkova V. The Radicular Cyst in a Child: Case Report. *Archive of Clinical Medicine*. 2021 Nov 30;27(2):26-9.