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# Bilateral radicular cyst in maxillary anterior region: A rare case report and review of literature

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**Abstract**
Radicular cysts (RC) are the most common inflammatory odontogenic cysts. This cyst arise from the epithelial residues in the periodontal ligament as a result of periapical periodontitis following death and necrosis of the pulp. Cysts arising in this way are found most commonly at the apices of the involved teeth, but may also be found on the lateral aspects of the roots in relation to lateral accessory root canals. The classic description of the radiological appearance of radicular cysts is that they are round or ovoid radiolucencies surrounded by a narrow radiopaque margin which extends from the lamina dura of the involved tooth. This case report presents a rare case of bilateral radicular cysts of the maxillary anterior region along with review of literature.

**Keywords:** bilateral maxillary radicular cyst, multilocular radiolucency, odontogenic cyst, periapical cyst, surgical enucleation

## 1. Introduction

Radicular cyst is the most common odontogenic cyst. These cysts comprise about 52% to 68% of all the cysts affecting the human jaw [1]. Radicular cyst involves the apex of erupted tooth and sequel of periapical granuloma originating as a result of bacterial infection and necrosis of the dental pulp, nearly always following carious involvement of tooth. The epithelium is derived from epithelial rests of Malassez in the periodontal ligament, which proliferate as a result of inflammatory stimulus in a pre-existing granuloma. Epithelium may be derived in some case from 1) Respiratory epithelium from maxillary sinus when the periapical communicates with the maxillary sinus 2) Oral epithelium from a fistulous tract 3) Oral epithelium proliferating apically from a periodontal pocket. Their incidence is highest in third and fourth decade of lifespan with male dominance [2]. We present a rare case with bilateral radicular cyst in relation to maxillary anterior.

## Case Report

A 14-year adolescent female patient reported to the OPD of our dental college with a chief complaint of dull pain followed by swelling in upper front region of the jaw since last four months. Extraorally, mild swelling was seen involving the philtrum and both ala of nose. The skin over the swelling appeared normal. Intraoral examination revealed swelling in the anterior maxillary region which was non-tender and hard on palpation, about 2 x 2 cm in size in Association with permanent maxillary central incisors and Over-retained maxillary right and left lateral incisors. Left canine showed displacement. Pulp vitality test was carried out and it was negative for 11, 21 and 23. Orthopentagram (OPG) showed two separate well-defined radiolucencies associated with 11, 42 and 52. Patient gave a history of trauma in her childhood.

Past medical and dental history was non-contributory. Based on the history, clinical and radiological features provisional diagnosis of periapical cyst was given along with the differential diagnosis of nasolabial cyst. Routine blood investigation were done which showed no significant change in any value. Then incisional biopsy was taken and the specimen sent to the department of Oral Pathology and Microbiology for the confirmation of diagnosis. On microscopic examination, hematoxylin and eosin (H & E) stained section (Fig. 4, 5, 6) revealed cystic lumen surrounded by epithelial lining and outer connective tissue stroma. Epithelial lining was non-keratinised stratified squamous with flat epithelium- connective tissue interface. Many epithelial cells showed intracellular edema. Juxta-epithelial region was fibrofatty in nature. It also showed band of chronic inflammatory infiltrate. Deeper connective tissue stroma was loosely arranged and it showed irregularly and haphazardly arranged bundles of collagen fibers. Connective tissue stroma also showed numerous and variably sized blood capillaries. Fibrocytes and plump fibroblasts are also seen in the section. Overall features are suggestive of radicular cyst.

**Fig 1:** Intra-oral view

**Fig 2:** Radiographic view

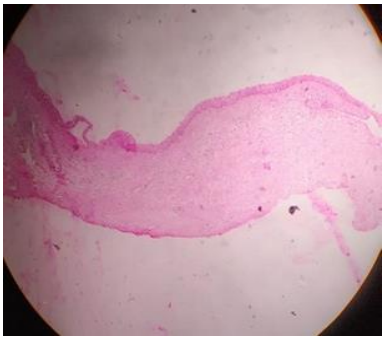

**Fig 3:** Incised biopsy

**Fig 4:** Scanner view Specimen

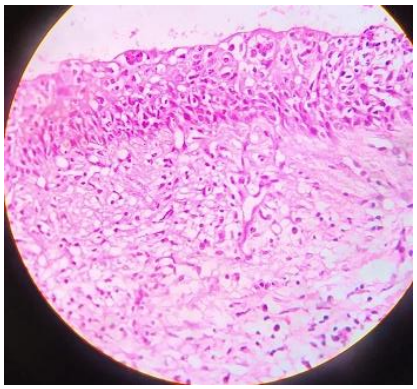

**Fig 5:** Low power view

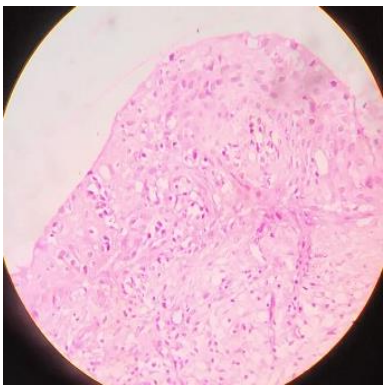

**Fig 6:** High power view

## Discussion

A radicular cyst, also known as a peri-apical cyst, is usually associated with carious, nonvital, discolored, or fractured tooth [3, 4]. The cyst is believed to form by proliferation of the epithelial cell rests of Malassez in inflammed periradicular tissues [5]. Its size rarely exceeds 1 cm and is often seen in patients between 30 and 50 years old with higher incidence in the maxillary anterior region [4, 6]. This case showed the size of around 2x 2 cm in size in the patient of 14 years old which is considered rare.

The radicular cyst is usually symptomless and detected incidentally on plain OPG while investigating for other diseases. However, as some of them grow, they can cause mobility and displacement of teeth and once infected, lead to pain and swelling, after which the patient usually becomes aware of the problem [7].

The swelling is slowly enlarging and initially bony hard to palpate which later becomes rubbery and fluctuant [2, 4]. They are most common of all the jaw cysts and comprise about 52%–68% of all the cysts which affect the human jaw [8, 9].

The pathogenesis of radicular cyst has three definite phases; Phase of initiation, cyst formation and the enlargement [10]. Radicular cysts are generally asymptomatic and are detected by radiography, but long‐standing cases may show an acute exacerbation of the cystic lesion and develop signs and symptoms such as swelling, tooth mobility, and displacement of unerupted tooth, root resorption of the affected tooth. With advanced bone resorption, the enlargement exhibit egg shell crackling.

In this present case, there was no cortical perforation and adjacent teeth in relation to the cyst were nonvital [10]. It has been stated that as the cyst enlarges, adjacent teeth can become nonvital [11].

The treatment option depends on several factors, size and location of the cyst, integrity of the wall, and proximity of the cyst with vital structures [12]. Several treatment modalities are available for radicular cysts such as surgical endodontic management, extraction of the aberrant tooth, enucleation with initial resolution, and marsupialization followed by enucleation [10]. In this case, surgical enucleation was done on both sides along with the removal of the offending teeth.

## Conclusion

A radicular cyst is common condition found in oral cavity. The significance of this case report is to illustrate a rare and dramatic example of bilateral symmetric representation which shows the importance of radiographic examination before the removal of teeth.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form thepatient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

## References


1. Nair PN. Review New perspectives on radicular cysts: Do they heal? Int Endod J, 1998; 31:155-60. [PubMed: 10321160]
2. 3rd ed. Singapore: Varghese Publication House. Mervyn Shear, Cysts of oral regions, 1992, 136-70.
3. Scholl RJ, Kellett HM, Neumann DP, Lurie AG. Cysts and Cystic Lesions of the Mandible: Clinical and Radiologic-Histopathologic Review. Radiographics, 1999; 19:1107-24. [PubMed: 10489168]
4. Shafer HL. 6th ed. Amsterdam: Elsevier; 2006. Textbook of Oral Pathology.
5. Lin LM, Huang GT, Rosenberg PA. Proliferation of epithelial cell rests, formation of apical cysts, and regression of apical cysts after periapical wound healing. J Endod, 2007; 33:908-16. [PubMed: 17878074]
6. Weber AL. Imaging of cysts and odontogenic tumors of the jaw. Radiol Clin North Am. 1993; 31:101-20.
7. Gallego Romero D, Torres Lagares D, GarcIa Calderón M, Romero Ruiz MM, Infante Cossio P, Gutiérrez Pérez JL. *et al*. Differential diagnosis and therapeutic approach to periapical cysts in daily dental practice. Medicina Oral, 2002; 7:54-62.
8. Latoo S, Shah AA, Jan MS, Quadir S, Ahmed I, Purra AR. *et al*. Radicular cyst. JK Sci, 2009; 11:187‐9.
9. Riachi F, Tabarani C. Effective management of large radicular cysts using surgical enucleation vs. marsupialisation. IAJD, 2010; 1:44‐51.
10. Jansson L, Ehnevid H, Lindskog S, Blomlöf L. Development of periapical lesions. Swed Dent J. 1993; 17:85-93.
11. Weber AL, Kaneda T, Scrivani SJ, Aziz S. Jaw: Cysts, tumors and nontumorous lesions. In: Som PM, Curtin HD, editors. Head and Neck Imaging. 4th ed. St. Louis, MO: Mosby, 2003, 930‐94
12. Andersson L, Kahnberg KE, Pogrel MA. Oral and Maxillofacial Surgery. ed. 1st: Wiley Blackwell. Uloopi KS, Shivaji RU, Vinay C, Pavitra, Shrutha SP, Chandrasekhar R, *et al*. Conservative management of large radicular cysts associated with non‐vital primary teeth: A case series and literature review. J Indian Soc Pedod Prev Dent, 2010; 33:536.