

Treatment of Massive Radicular Cyst in a Child with 3 years Follow-up: A Rare Case Report

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Abstract

Radicular cyst is the most common odontogenic cyst that arises from the proliferation of Hertwig's epithelial root sheath from a non vital tooth. They are rarely associated with deciduous teeth, accounting for 0.5%–3.3% of all radicular cysts.¹ Most radicular cysts of the primary dentition are associated with mandibular molars.

In the initial stages the radicular cysts are usually asymptomatic and are often diagnosed during routine radiographic examination. The large radicular cysts present as hard bony swelling in the vestibule often associated with extraoral facial asymmetry, delayed eruption, malposition, enamel defects or damage of the developing permanent successors.²

The radiological examination of the cystic lesion is essential to diagnose the extent of the radiolucency, to evaluate the involvement of adjacent teeth and developing

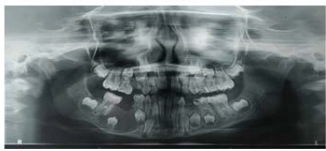
permanent successors. The common radiological features include – resorption or deviation of the adjacent teeth and migration of the permanent tooth bud along with the bony expansion.

Treatment options include the combination of either cyst enucleation or marsupialization and removal of the involved primary tooth and conservation of the succeeding permanent teeth. The purpose of this article is to report a case of large radicular cysts and discuss the clinical features and conservative management of the lesion in a child.

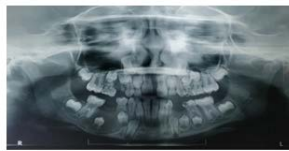
Case Report

Seven years old female presented with a chief complain of swelling in the right lower back tooth region since 2-3 months. Swelling was associated with pain from last two weeks. There was a history of dental treatment in right

lower deciduous 2nd molar 2 years back. There was no significant medical and family history.



29TH AUGUST 2017



07TH OCTOBER 2017

On examination the child was moderately build and was co-operative. On intraoral examination 85 was grossly decayed. A hard bony expansion was noted in the mandibular right posterior region. The overlying mucosa was normal. No active discharge was noted. Radiological examination was done using panoramic x-ray which showed a well-defined radiolucent extending in the region of 84, 85 and 46. The 85 was grossly decayed with remnants of radiopaque restorative material. The developing tooth bud of 45 was displaced close to the lower border of the mandible. The mesial and distal root of the 46 was not completely developed. The developing tooth bud of 44 was also placed against the radiolucent lesion.



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Based on the history, clinical and radiological features a provisional diagnosis of radicular cyst in relation to 85 was considered. Patient was planned for marsupialization of the cystic lesion under local anesthesia. An informed consent was obtained regarding the procedure and outcome. Extraction of the decayed 85 was done. The bony margins were smoothed. The cystic contents were evacuated. An impression was made using rubber-base

impression material. Cast was poured. An acrylic plug was fabricated and adjusted in the oral cavity.

Patient was instructed about the maintenance and follow-up visits. Patient was recalled daily for a week. The cystic cavity was cleaned with betadine and saline solution. After a week patient was recalled every alternate day and the cystic cavity was cleaned at every visit. After a month patient was recalled twice in a week for check-up and cystic cavity irrigation.

Follow-up radiographs were done every month. After 3 months enucleation of the remaining cystic lining was done. The wound was closed with resorbable sutures. Patient was instructed for a weekly follow-up. The post-operative period was uneventful and the healing was satisfactory. Patient was kept for a 2 year follow-up with periodic radiological examination.

The radiological examination showed remarked bone formation in the area. The eruption of 45 was noted. The development of roots of 46 was also noted.

Discussion

Radicular cysts arising from primary teeth are considered to be rare; although, they comprise about 52% of all the jaw cysts. Most of the small cysts associated with deciduous dentition often get undiagnosed as they might resolve spontaneously after exfoliation/extraction of the offended tooth.³ This could be the possible reason for the low incidence of radicular cysts associated with primary teeth. However in the cases of large cysts the clinical symptoms become evident and often require specific surgical intervention. The evident clinical features that necessitates the need for surgery includes – bony expansion of the jaw causing visible swelling and gross facial asymmetry, malocclusion, deviation/ mobility / resorption in the adjacent teeth, possibility of damage to the developing permanent tooth buds.⁴

In the present case the clinical and radiological examination depicted a gross bony expansion on the right side of the mandible. OPG shows migration of the permanent tooth bud to the lower border of the mandible and resorption of the adjacent root of the permanent 1st molar. These warned the need for immediate surgical intervention.

In cases of large radicular cysts associated with primary teeth, the results achieved with conservative approach using marsupialization are highly significant.⁵ In the present case some remarkable changes can be appreciated in the follow-up radiographs, which include – a significant amount of bone regeneration in the area, complete eruption of the permanent successors teeth and unimpeded root completion of the adjacent permanent 1st molar. The only disadvantage is that we need to have good patient compliance.

The surgical management in the cases radicular cysts includes marsupialization and enucleation. In cases of cysts with minimal involvement of the adjacent teeth and developing dentition more radicular approach with enucleation should be considered. The cases where the adjacent dentition is grossly involved, a more conservative approach should be considered.

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