Radicular Cyst in Association with Primary Molar: A Rarity

Swati Sharma[1], Nisha Singh[2], Jai Prakash[3], Abhishek Anand[4]

1- Reader, Department of Pediatrics and Preventive Dentistry, Buddha Institute of Dental Sciences & Hospital, Patna. 2,3,4- PG, Department of Pediatrics and Preventive Dentistry, Buddha Institute of Dental Sciences & Hospital, Patna.

Correspondence to:
Dr. Swati Sharma, Reader, Department of Pediatrics and Preventive Dentistry, Buddha Institute of Dental Sciences & Hospital, Patna.

ABSTRACT

Radicular cysts associated with deciduous teeth are rare comprising only 0.5%-3.3% of total number in both primary and permanent dentition. This article presents a case report of a radicular cyst associated with mandibular deciduous molars. The management comprised enucleation of the cystic sac under local anesthesia.

KEYWORDS: Unilocular, primary molar, enucleation, radicular cyst

INTRODUCTION

Radicular cyst or residual cyst is the most common cystic lesion occurring in the jaw. Radicular cyst in primary dentition (RCP) is an odontogenic inflammatory lesion, as a result to pulp necrosis. It is considered to be rare in primary dentition, comprising only 0.5%–3.3% of the total number of radicular cysts in both primary and permanent teeth.[1] Epithelial remnants of the cell rests of Mallasez, consequent to inflammation that is generally a result of pulp necrosis gives rise to radicular cyst. The cysts commonly involve the apex affected tooth. The most common etiological feature is caries, along with traumatic injuries to the primary teeth. Patients affected with RCP are generally seen in first decade and in the early second decade of life. Girls have higher incidence than boys. The mandible is affected more often than the maxilla. RCP is generally asymptomatic, slow growing lesion with a tendency to drain through the gingival or sinus tract. Usually, treatment of cystic lesions of the jaws in children consists of extraction or endodontic therapy of necrotic tooth followed by marsupialization, or enucleation followed by bone grafting. The aim of this article is to follow the clinical features, treatment, histopathological of radicular cyst.

CASE REPORT

A 9-year-old male patient reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of a painless swelling in the right lower back region of the jaw since 5–6 months. The patient had episodes of toothache in the same region initially which was followed by gradual increase in the swelling to its present size. There was no history of previous dental treatment involving carious tooth 85.

Extraoral examination [Figure 1] revealed a painless bony hard swelling in the lower right side of the mandible. Intraoral examination [Figure 2] revealed carious tooth 85 with obliteration of buccal sulcus, indicative of expansion of the buccal cortical plate. There was no intra-oral sinus or active pus discharge present. The swelling was non-tender. Teeth 85 was found to be non-vital with the electric pulp test.

Figure 1: 9 year old male patient

Figure 2- carious 84

INVESTIGATION

Orthopantomogram (OPG) [Figure 3] revealed a radiolucency of 3.5 × 5 cm size, approximately at the apex of 85 and extending from 84 to the distal aspect of

How to cite this article:
Sharma S, Singh N, Prakash J, Anand A. Radicular Cyst in Association with Primary Molar: A Rarity. Int J Dent Med Res 2015;1(6):136-138.

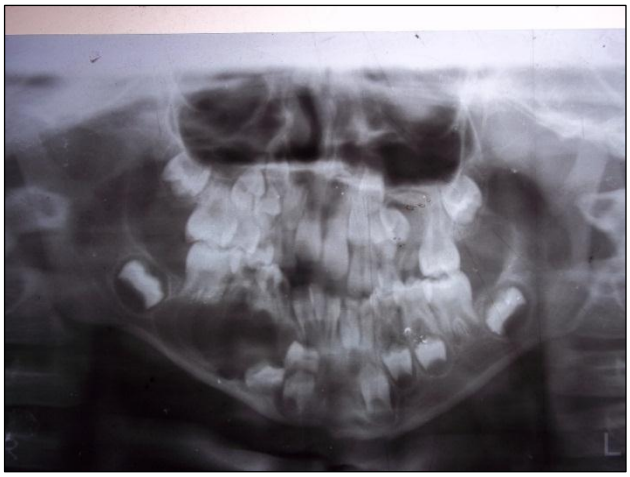

Figure 3- OPG showing radiolucency involving 84, 85, 46

46. Slight blunting of the apices of 36, along with visible loss of lamina dura with the same was noted.

The second premolar was displaced towards the lower border of the mandible on the mesial aspect, drifting away from the normal path of its eruption, with loss of its follicular space.

Light-yellow blood-mixed liquid was obtained on aspiration, with the differential diagnosis being radicular or dentigerous cyst.

From the history, clinical and radiographic presentation, we arrived at a provisional diagnosis of radicular cyst.

TREATMENT

- The case was posted for surgical enucleation of the lesion. Incision was made from 84 to mesial end of 46 along the gingival margin[figure 4] and the cystic site was exposed [Figure 5]. Considerable thinning of the buccal cortical plate was there, which was removed leaving the lingual plate in its intact state.
- The cystic lining was enucleated alongwith with extraction of 84 and 85 and sent for histopathological examination. Histopathological features revealed [Figure 6] a cystic lumen lined by stratified squamous epithelium which was 4–5 cells thick.

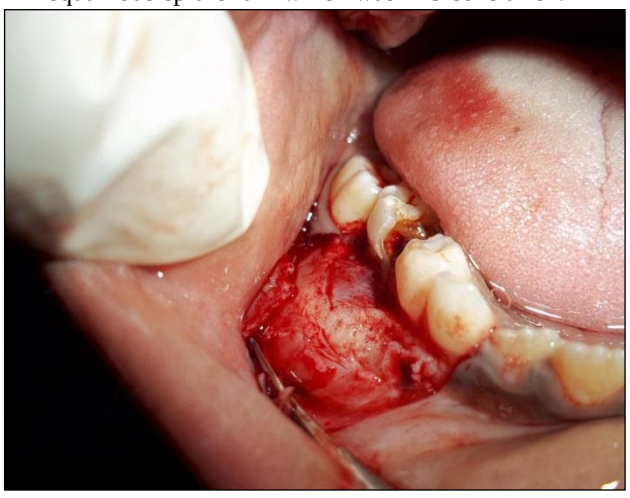

Figure 4-reflection of flap done

Figure 5- enucleation of the cyst done

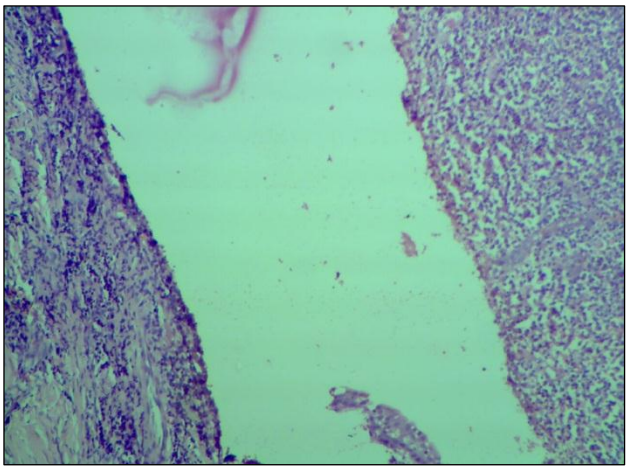

Figure 6- Histopathological features revealed a cystic lumen lined by stratified squamous epithelium

OUTCOME

- The cyst was covered by fibrous connective tissue wall with spindle-shaped cells which confirmed the definitive diagnosis of radicular cyst.
- Post- surgical IOPA revealed premolars erupting in their normal eruptive path [Figure 7].
- Postsurgical healing was uneventful.

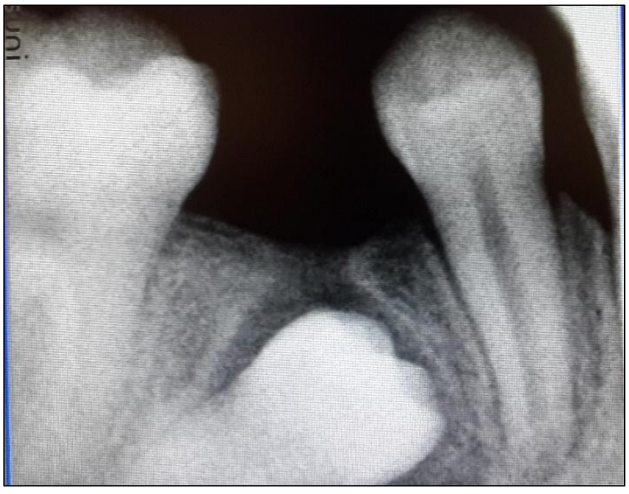

Figure 7-premolar erupting in its normal pathway

DISCUSSION

Radicular cysts which originate from primary teeth are very rare and only a few cases have been published.[2] A radicular cyst arises from epithelial residues of rests of Malassez in the periodontal ligament as a result of inflammation. The inflammation leads to the death of the dental pulp. Cysts arising therefore, are found most commonly at the apices of the involved tooth.[1] The cause radicular cyst for its rarity in primary dentition may be due to various reasons; for example:

- Periapical lesions resolve after exfoliation or removal of the tooth.
- Remains untreated because of its relatively less severe symptoms.
- Diagnostic errors and non-referral for pathologic examination.
- Regression of the lesion after endodontic treatment.[3]

This case was diagnosed as a radicular cyst for the following reasons:

- There was presence of a large and painless radiolucent lesion in relation to the roots of a non-vital primary tooth
- Presence of predominant mandibular buccal cortical plate expansion
- There was histological confirmation of cystic epithelial lining

Radicular cyst in deciduous dentition primarily affects the mandibular teeth because they are the ones most frequently affected by caries; whereas, it has a maxillary predominance in the permanent dentition.[4]

Grundy, Adkins and Savage[5] reported case series of radicular cysts associated with deciduous teeth which were treated endodontically with materials containing formocresol in combination with tissue proteins, is antigenic and has shown to evoke a humoral and cell-mediated response.[6]

In children, healing of the postsurgical osseous defects is always good as they propensity for bone regeneration is higher.[7] In our case, we could not notice this because the child was from a very distant place and the parents expressed inability to visit the hospital for regular follow-ups.

CONCLUSION

An old proverb “a stitch in time saves nine” holds very true especially in pediatric dentistry where early diagnosis and treatment can save the affected teeth. The cystic potential of a radicular cyst in deciduous dentition should be carefully considered even in non-endodontically treated primary carious teeth. Treatment of the cystic lesions should be carried out as soon as possible so that there is no harm to the adjacent teeth and other vital structures.

REFERENCES

1. Ramakrishna Y, Verma D. Radicular cyst associated with a deciduous molar: a case report with unusual clinical presentation. J Indian Soc Pedod Prev Dent 2006;24:158-60.
2. Lustmann J, Shear M. Radicular cysts arising from deciduous teeth; Review of literature and report of 23 cases. Int J Oral Surg 1985;14: 153-61.
3. Delbem AC, Cunha RF, Vieira AE, Pugliesi DM. Conservative treatment of radicular cyst in 5 year old child: A case report. Int J Paediatr Dent 2003;13:447-50.
4. Mass E, Kplan I, Hirshberg A. A clinical and histopathological study of radicular cyst associated with primary molars. J Oral Pathol med 1995;24:458-61.
5. Grundy RM, Adkins KF, Savage NW. Cysts associated with deciduous molars following pulp therapy. Aust Dent J 1984;29:249-56.
6. Block RM, Lewis RD, Sheats JB, Burke SH, Fawley J. Antibody formation and cell mediated immunity to dog pulpal tissue altered by formocresol within the root canal. AADR Abst 658. J Dent Res 1997;56:B241.
7. Takeda Y. J Oral Pathol 1985;14:248-69.

Source of Support: Nil
Conflict of Interest: Nil