



CYST OF PERIODONTAL ORIGIN: A CASE REPORT

Dental Science

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ABSTRACT

Lateral periodontal cyst is a rare odontogenic cyst of developmental origin. It occurs on the lateral periodontal region on a vital tooth and has specific histologic features was successfully enucleated.

KEYWORDS

lateral periodontal cyst, enucleation, odontogenic tumors

INTRODUCTION

The lateral periodontal cyst is a non-keratinized, non-inflammatory developmental cyst an uncommon but well reorganized type of developmental odontogenic cyst. These cysts appear to arise in intimate association, with a predilection for the mandibular bicuspid area. The lateral periodontal cyst occurs chiefly in adults. There was prediction for occurrence in males and females. The location of the lesion was extremely limited. The majority of cases have presented no clinical signs or symptoms and have been discovered during routine radiographic examination of the teeth. When the cyst is located on the labial surface of the root, there may be a slight mass obvious, although the overlying mucosa is normal. Unless otherwise affected, the associated tooth is vital. If the cyst become infected, it may resemble the lateral periodontal abscess.¹

CASE STUDY

A 35 yrs male patient reported in the outdoor patient department of Uttaranchal Dental and Medical Research Institute with the chief complaint of pain in lower right back tooth region since last 1 month.

Patient got trauma to the lower right back tooth during an accident 1.5 year back. Temporarily he was on medication and became all right but since last 1 month he again noticed pain which was dull and continuous in nature.

On clinical examination it was seen that vestibule of 44 and 45 was completely obliterated. 45 was tender on lateral percussion. There was expansion of buccal cortical plate. Swelling was soft, fluctuant giving an appearance of no buccal cortical plate. Teeth 44 and 45 was vital on testing with electric pulp tester.



Fig – 1 Preoperative view of cystic elevation on the buccal surface of 1st and 2nd premolar area

On radiographic examination a unilocular radiolucent area associated

with the periodontal space discontinuing the lamina dura with well demarcated radio-opaque borders. Provided that the lesion is unilocular on radiographic presentation.

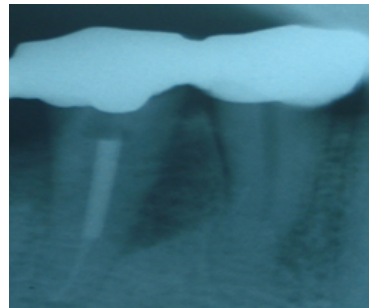


Fig 2 Radiograph showing discontinuation of lamina dura associated with second premolar

Differential diagnosis is lateral radicular cyst, lateral periodontal cyst and odontogenic tumours was made². Treatment Plan was scaling and root planning of 4th quadrant and root canal of 44 and 45 followed by the enucleation of the cyst.

After scaling and root planning and RCT of 44 and 45 a mucoperiosteal flap was elevated. A soft granulosomatous bluish grey mass 3'3'4'mm in dimension, completely perforating the buccal cortical plate filling the cyst space was present which was attached to the cyst lining. Cyst was completely enucleated with the proper curettage of cyst cavity to remove all the lining epithelium.



Fig -3 Photograph showing perforation of buccal cortical plate by cyst along with visible lateral surface of root in the perforation area.



Fig-4 Photograph showing enucleated cystic mass



Fig-5 After 2 weeks sutures removed.

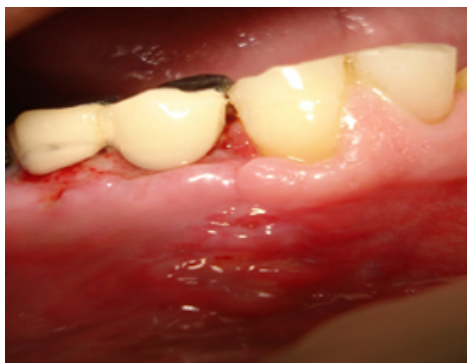


Fig – 6 Reevaluation after 1 month shows that there was no recurrence of the cyst.

Fragmented pieces of the lesion were freed from the bone with curettes and submitted for histopathological evaluation, which confirmed the diagnosis of a lateral periodontal cyst which had a thin lining of non-keratinized epithelium usually 1 to 5 cell layers thick which resembles the reduced enamel epithelium. The thin lining is interspersed with conspicuous, sometimes numerous, glycogen-rich clear cells. Presence of dense fibrocellular connective tissue stroma. consist of numerous fibroblasts, collagen fibre bundles and dense chronic inflammatory cells mainly comprising of lymphocytes and plasma cells. Numerous proliferating, dilated blood capillaries lined by plump endothelial lining filled with and extravasated RBC's were seen.

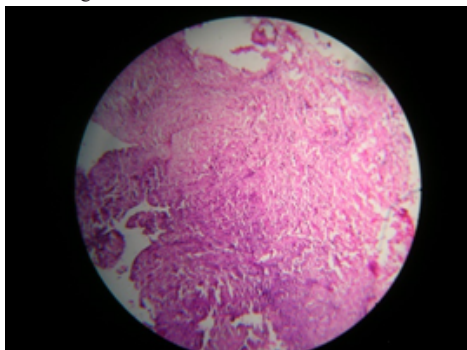


Fig – 7 Histological Section

in the periodontal ligament and as it enlarges may perforate the cortical plate from the inside out, resulting in gingival swelling. It presents at the time of surgical removal as a bone cavity with sharp borders, because the surface of the alveolar bone forms an acute angle with the cyst cavity. The gingival cyst on the other hand, originates in the connective tissue of the gingiva and as it becomes larger finally erodes the surface of the alveolar bone from the outside in, leaving a bone cavity with "blunt" borders in which the surface of alveolar bone forms an obtuse angle with the cyst cavity. Therefore, careful evaluation of the borders of the bone cavity as well as the angle which is formed between the labial surface of the alveolar bone and the cyst cavity is extremely helpful in differentiating between the lateral periodontal cyst and the gingival cyst in those cases of cysts with both radiolucency and gingival swelling³.

Provided that the lesion is unilocular on radiographic presentation, the lateral periodontal cyst is treated by surgical enucleation. Greer and Johnson reported that 8 of 10 recurrent cases were unilocular radiologically, but multilocular histologically. Therefore, clinicians are advised to follow these cases over a number of years. Because the lesions are benign and slow growing, left untreated they can enlarge 0.7 mm per year and cause gingival expansion⁴.

CONCLUSION

The lateral periodontal cyst was enucleated successfully.

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DISCUSSION

The lateral periodontal cyst originates centrally in the alveolar bone or