

LATERAL PERIODONTAL CYST – A CASE REPORT

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ABSTRACT

The lateral periodontal cyst (LPC) is a non-inflammatory, intra osseous, odontogenic cyst that arises in close proximity to the roots of vital teeth. LPC is found mostly in adults without any sex predilection. It is usually asymptomatic unless secondarily infected. Thus, it is often reported as a by chance finding during routine radiographic evaluation. The most common sites of occurrence of LPC reported include the mandibular premolar-canine region or the maxillary anterior region. A 28-year-old man was the patient in our instance; the lesion was located in the maxillary canine premolar region and manifested as an asymptomatic swelling in the labial gingiva. Differentiating the origin of the lesion from an endodontic or periodontal perspective presents a clinical challenge. A correct diagnosis is possible only by histo-pathologic examination (HPE). The treatment is usually with conservative surgical enucleation and thorough curettage of the lesion.

KEYWORDS : Non-inflammatory; vital teeth; radiographic evaluation; surgical enucleation

INTRODUCTION

The lateral periodontal cyst (LPC) is a relatively uncommon but widely recognized odontogenic cyst of developmental origin that was first reported in 1958 by Standish and Shafer.¹ LPC has been classified as an odontogenic cyst of developmental origin according to the World Health Organization (WHO) classification of odontogenic tumours and cysts (5th Edition, 2022).² LPC is more prevalent in adults in the 5th-7th decade age group, without any particular preference for race or sex. The involved teeth are usually vital, unless they have been affected by periodontitis or dental caries.³ It usually presents as small asymptomatic swelling of gingiva or alveolar mucosa. Although, LPC has a characteristic radiological presentation but it must be carefully distinguished from gingival cyst, odontogenic keratocyst, lateral radicular cyst, glandular odontogenic cysts, lesions of endodontic and periodontal origin.⁴ HPE picture of LPC is unique. The treatment of the LPC is total enucleation of the defect. There is little tendency for recurrence.²

CASE STUDY

A 28-year-old male patient reported to our department with the chief complaint of a painless swelling in the labial aspect of the upper left front teeth region since the past 1 month. Over these periods, the swelling began gradually, started out modest, and has since grown to its current size. His past medical and dental history were non-contributory. Extraoral examination was normal. Intraoral Examination revealed presence of a well circumscribed swelling, of the colour of normal surrounding mucosa, measuring approximately 1 cm x 1.5 cm in size in the labial attached gingiva, extending antero-posteriorly from mesial aspect of 23 to distal aspect of 24 teeth (FIGURE 1).

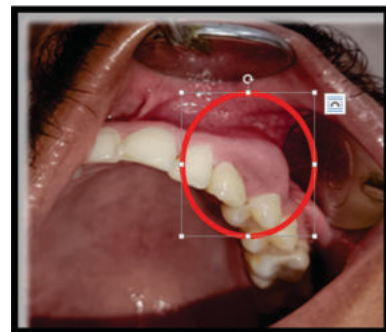


Figure 1: Intra-oral Picture

On palpation, the swelling was firm in consistency with a fluctuant point at the bottom of the swelling. The swelling had well-defined borders and its overlying surface was smooth. It was non-tender on palpation. Based on the above features it was provisionally diagnosed as Lateral Periodontal cyst between 23, 24 teeth. Gingival cyst of adult, Collateral variety of Odontogenic Keratocyst (OKC), Lateral variety of dentigerous cyst, Globulomaxillary cyst were considered as the differential diagnosis.

Upon aspiration, a yellow-coloured aspirate was found without presence of any purulent discharge (FIGURE 2).



Figure 2: Aspirate

IOPAR showed an oval shaped well-circumscribed radiolucency of size approximately 1 cm x 1.5 cm between

roots of 23 and 24 teeth, located between the apex and cervical margin of these teeth. There was no root resorption of 23 and 24 teeth (FIGURE 3).



Figure 3: IOPAR

OPG revealed an oval shaped, well-defined radiolucency with a sclerotic margin, measuring about 1 cm x 1.5 cm in size, located between 23 and 24 teeth and also overlapping the root of 24 (FIGURE 4)

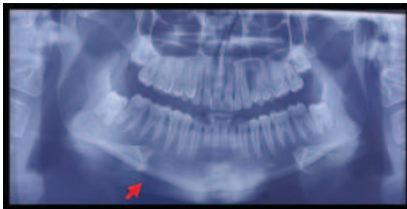


Figure 4: OPG

Excisional biopsy was performed under local anesthesia (FIGURE 5).



Figure 5: Excised Sample

Biopsied sample histopathologically revealed presence of cystic cavities of varying size lined by non-keratinized cuboidal (odontogenic) epithelial cells and backed by mature fibro-vascular connective tissue stroma. It showed presence of localized plaque like thickenings in the epithelial lining in multiple sites often forming mural bulges within the cystic cavity (FIGURE 6).

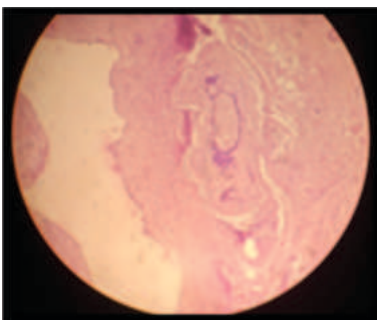


Figure 6: Histopathological Picture

Based on the above features Final diagnosis of Lateral periodontal cyst in relation to 23, 24 teeth was given. The postoperative period was uneventful. The patient's aesthetics and function were restored. The patient was followed up for 1 year with no evidence of complication or recurrence (FIGURE 7).



Figure 7: Follow Up Picture

DISCUSSION

Only cysts that arise in the lateral periodontal position and for which an inflammatory aetiology and a diagnosis of collateral OKC have been ruled out on clinical and histological grounds are eligible for the label "lateral periodontal cyst" (Shear and Pindborg, 1975).¹ Regarding the cell type of origin, there are primarily three perspectives in the etiopathogenesis of LPC. Shear M referred to the presence of epithelial cell rests of Malassez on root surfaces in the pathophysiology of LPC, whereas Altini M and Shear M have attributed origin to reduced enamel epithelium (REE). Cohen D A et al. gave reference to dental lamina remnants as cells of origin.⁴ It is usually symptomless and only discovered fortuitously during routine radiological examination of the teeth. LPC presents radiologically as a well-defined, round or oval radiolucency with a sclerotic border situated between the alveolar process's crest and apex. It doesn't affect the space between periodontal ligaments or result in root resorption of the neighbouring teeth.⁵ Anatomic interradiolar radiolucencies such as the mental foramen, nutrient canals, and maxillary sinus, as well as diseases like pulpal-origin cysts, odontomas, tumours, and other jaw cysts, can all have a similar radiographic appearance.⁶ The histopathologic examination (HPE), which determines the course of treatment, is the only way to make a proper diagnosis. Some distinctive histological characteristics of LPC include a thick, non-keratinized epithelial lining that ranges in thickness from one to three cell layers. This lining frequently mimics odontogenic epithelium or REE and may exhibit a palisading pattern. Areas of thickening known as epithelial plaques, which are made up of multiple transparent fusiform cells rich in glycogen, are visible in the epithelial lining.² The lesion is often treated with conservative surgical enucleation and Attempts should be made to avoid sacrificing the associated tooth. Although LPC seldom recurs, clinicians are advised to follow these cases for a number of years.⁶

CONCLUSION

The LPC is an uncommon developmental cyst of odontogenic origin that is located along the lateral aspect of a root of the tooth. It is mostly discovered during routine radiographic examination and the treatment involves surgical enucleation and microscopic study of the specimen. Care should be taken not to damage the roots of the adjacent teeth. Recurrence of LPC is rare.

REFERENCES

1. Shear, M., & Speight, P.M. (2008). Cysts of the oral and maxillofacial regions. John Wiley & Sons.
2. Barnes, L. (2000). Surgical pathology of the head and neck (Vol. 2). CRC press.
3. Neville, B. W., Damm, D. D., Allen, C. M., & Chi, A. C. (2015). Oral and Maxillofacial Pathology: Oral and Maxillofacial Pathology. Elsevier Health Sciences.

4. Govil, S., Gupta, V., Misra, N., & Misra, P. (2013). Bilateral lateral periodontal cyst. *Case Reports*, 2013, bcr2013009383.
5. Mallya, S., & Lam, E. (2018). *White and Pharoah's oral radiology: principles and interpretation*. Elsevier Health Sciences.
6. Ramesh, R., & Sadasivan, A. (2020). Lateral Periodontal Cyst–A diagnostic dilemma: Report of a rare case with CBCT and histological findings. *International Journal of Surgery Case Reports*, 75, 454-457.