CASE REPORT

Bilateral lateral periodontal cyst

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SUMMARY

The bilateral lateral periodontal cyst is a rare nasological entity, which despite clinical and radiological presentation is being diagnosed by histological characteristics. It is asymptomatic in nature and is observed in routine radiography. The aim and objective of this article is to present a rare case of bilateral lateral periodontal cyst in a 14-year-old child. The clinical and radiographical findings, along with its management have been discussed. Enucleation of bilateral cyst without extraction of the adjacent tooth was performed. Lesion samples were sent for histopathological analysis. The histopathological analysis revealed a thin, non keratinised stratified squamous epithelium resembling reduced enamel epithelium. Epithelial plaques were also seen. A clinicopathological correlation incorporating the surgical, radiographical and gold standard histopathological findings was obtained to suggest the final diagnosis of the bilateral lateral periodontal cyst.

BACKGROUND

The purpose of this article is to report a case of bilateral inter-radicular cystic lesion which is a unique feature in a 14-year-old boy, located in a rare site of the maxillary incisor area, mimicking clinical and radiographical features of a globulomaxillary cyst, but histopathologically proven to be a lateral periodontal cyst.

CASE PRESENTATION

A 14-year-old boy reported to our dental clinic with a chief complaint of forwardly placed upper front teeth since 4 years. On general examination, the boy was apparently healthy. There was no significant medical history. Extra-oral examination revealed a convex profile with incompetent lips. Intra-oral clinical examination showed proclined upper central and lateral incisors with Ellis Class II fracture in tooth no. 12 and Ellis Class III fracture in tooth nos. 11 and 21. The patient gave a history of fall 5–6 years prior to admission. The pulp vitality tests showed that the involved teeth were non-vital. No mobility was observed in their reference. On intraoral periapical radiographical examination (figures 1 and 2), it was observed that the lesion extended from the tip of the crest of interdental bone up to the junction of cervical and middle third along the lateral borders of the roots of both central and lateral incisors. Furthermore, the affected region showed a well circumscribed, unilocular, tear-drop shaped, intraosseous radiolucency with hyperostotic borders. Routine blood investigations were conducted and the patient was given a prophylactic antibiotic coverage. A provisional diagnosis of a globulomaxillary cyst and a lateral

Figure 1 Intraoral periapical radiograph of 11 and 12 region.

periodontal cyst was made. Histological examination was not performed because the underlying pathology could not be excised before the surgical intervention was planned. Access opening, bio-mechanical preparation and obturation of the teeth involved were completed. The surgical procedure was planned under local anaesthesia. A trapezoidal flap was reflected and a window was created bilaterally in the bone to remove the complete lining of the cyst (figure 3). Sutures were taken, post-operative instructions were given and the patient was recalled for removal of sutures after 7 days.

The specimens were then sent for histopathological examination. The examination revealed (figure 4) a thin, non-keratinised stratified squamous epithelium resembling reduced enamel epithelium. Epithelial plaques were also seen. The epithelium lining is discontinuous with separation of epithelium from the connective tissue in a few areas. The capsule was fibrous in nature and showed variable amount of chronic inflammatory infiltrate. The histopathology associated with macroscopic and radiographical examinations permitted the definitive diagnosis of bilateral lateral periodontal cyst. Complete bone regeneration after enucleation was evident on radiographical examination after 1 year (figures 5 and 6).

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Figure 2 Intraoral periapical radiograph of 21 and 22 region.

INVESTIGATIONS

- ▶ Pulp Vitality tests
- ▶ Intraoral periapical radiographical examination
- ▶ Routine blood investigations
- ▶ Histological examination

TREATMENT

Enucleation of bilateral lateral periodontal cyst without extraction of the adjacent tooth was performed.

OUTCOME AND FOLLOW-UP

After 1 year follow-up the patient was healthy and evidence of bone formation was seen in intraoral periapical radiographs of the affected region.

DISCUSSION

Clinical information about the bilateral lateral periodontal cyst is reported as a low incidence in the literature.¹ These types of cysts, being asymptomatic, are observed by routine radiography.

Figure 3 Surgical site showing complete enucleation of the cyst.

Figure 4 H&E stained specimen showing thin, discontinuous, non-keratinised str. sq. ep. lining with inflamed connective tissue capsule.

The lateral periodontal cyst accounts between 0.8% and 1.5% of all maxillary cysts.^{2 3} It usually affects individuals between fifth and seventh decade of life,⁴ though there have been reports of patients between 14 and 84 years of age.^{1-3 5} It does not have predilection for any race.⁶ It is found more commonly in men than in women.^{1 3 5} As regards the location of these lesions, the mandible premolar region is most affected followed by upper lateral incisor and canine region.^{1 3 5} The size of lateral periodontal cyst is usually 10 mm.⁷ The pulp vitality of the adjacent tooth is not affected by the cyst, unless the dental pulp has been affected in another way.⁴

Radiologically, the lateral periodontal cyst appears as a round, oval or teardrop-like well circumscribed inter-radicular radiolucent area usually with a sclerotic margin, lying somewhere between the apex and the cervical margin of the teeth.⁸

Figure 5 Follow-up intraoral periapical radiograph of 11 and 12 region after 1 year.

Figure 6 Follow-up intraoral periapical radiograph of 21 and 22 region after 1 year.

Histologically, the lateral periodontal cyst presents two main characteristic features^{1 2 8}: (1) odontogenic recapitulation by odontogenic epithelium often referred to as epithelial plaques or thickenings, are seen in pathological conditions and (2) the presence of glycogen-rich clear cells in plaques or superficial layers of the lining epithelium.

The 'Histological typing of Odontogenic Tumours' given by WHO has reformed the lateral periodontal cyst from a clinical-

radiological entity to a histopathological one. The treatment of choice is surgical enucleation and its periodic follow-up.

Learning points

- ▶ The clinical and radiographical findings are not distinctive diagnostic criteria for diagnosis of the lateral periodontal cyst.
- ▶ Always go for histological examinations, which is a gold standard.
- ▶ Surgical intervention should be performed at the earliest.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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