

CASE REPORT



Bilateral dentigerous cyst - A case report

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Abstract

The most common odontogenic cyst in the oral cavity is the dentigerous cyst which has wide age range commonly involves the mandibular impacted third molar. The present case is about a 40-year-old patient complains of pain in the lower left back tooth region for 1 month and had undergone root canal treatment for 37 1 year back. However, the patient had recurrence of pain in the same region for 2 months with a history of mild swelling in that area and gave a history of moderate-to-severe pain intermittent and relieves on taking medication. Orthopantomograph revealed bilateral dentigerous cyst and was confirmed by histopathologic report. This article reviews the epidemiology, clinical features, radiographic features, treatment, and recurrence rate.

Introduction

It is also known as follicular cyst or eruption cyst. It is the second most common odontogenic cyst following radicular cyst. It commonly involves mandibular or maxillary third molar, maxillary canine, and supernumerary tooth. Commonly, these lesions are unilateral, but bilateral or multiple lesions are seen with a developmental syndrome or systemic diseases, such as Gorlin-Goltz syndrome (basal-cell nevus syndrome), cleidocranial dysplasia, Maroteaux–lamy syndrome, or mucopolysaccharidosis.^[1,2]

Case Report

A 40-year-old male patient complained of pain in the left back tooth region for 1 month and gave a history of pain in the lower left back tooth region of 1 year back and had undergone root canal treatment in relation to lower left back tooth region, and the pain had reoccurred in that region for 1 month which was severe, throbbing, and radiating toward head.

Extraorally diffuse swelling presents on the lower 1/3rd of the face measuring about 3*3 cm extending superiorly 3 cm below the alaragral line, inferiorly to the inferior border of the mandible, posteriorly to angle of the mandible, and anteriorly 3 cm away from the corner of the lip, and the surface appears normal as shown in Figure 1. Inspectory findings were confirmed, and

the swelling was tender on palpation and soft in consistency. Intraorally, there was inflamed pericoronal flap in relation to 38, tender, no discharge of pus, slightly buccal cortical plate expansion extending from 36 to 38 as shown in Figure 2. Hard-tissue examination revealed impacted 38 and 48. By considering, all the clinical finding provisional diagnosis of dentigerous cyst, with differential diagnosis of odontogenic keratocyst, radicular cyst, and unicystic ameloblastoma was given.

Orthopantomograph was taken which revealed a well-defined radiolucency presents in the right and the left mandibular body region extending from mesial surface of 37 to ramus of the mandible, roughly oval, enveloping the crown of 38 with no septae internally extending toward the inferior border of the mandible, superiorly to the alveolar crest displacing the 38 toward ramus on the left side. On the right side, a well-defined radiolucency presents on the mandibular body region in relation to 48 roughly oval, extending from mesial root of 47 to distal surface of 48, and superioinferiorly from alveolar crest to inferior border of the mandible enveloping the crown of 48 as shown in Figure 3.

Fine-needle aspiration cytology was performed on the left side which revealed numerous cholesterol crystals with broken cover glass appearance along with inflammatory infiltrate predominantly of lymphocytes which confirmed the diagnosis of infected developmental cyst.

A biopsy was performed and H and E stained soft-tissue section showed epithelium with 2–3 layers of cells. Fibrous

capsule showed endothelial lined blood vessels filled with red blood cells. Dense chronic inflammatory cell presents predominantly lymphocytes. The diagnosis of dentigerous cyst was confirmed.

Enucleation of both the cysts was done. The surgery was done under local anesthesia (2% lignocaine with 1:80,000 epinephrine) and antibiotic cover. The cyst cavity was packed with sterile iodoform gauze, to achieve hemostasis and to prevent hematoma formation. The iodoform gauze was removed on the following day, and the sutures were removed after 1 week.

After 6 months, orthopantomograph was taken which revealed irregular deposition of bone was seen in that area as shown in Figure 4.

Discussion

Meaning of dentigerous cyst means tooth bearing. It is defined as a cyst that encloses crown of an unerupted tooth.^[3] It usually develops after the crown has almost developed.^[4] Pathogenesis of dentigerous cyst is of two types: One is developmental which

occurs in mature teeth as a result of impaction and another is inflammatory in origin that occurs due to periapical infection of deciduous tooth.^[5]

Dentigerous cysts are usually painless but may cause facial swelling and delayed tooth eruption; they may cause fractures of the jaw and become secondarily infected.^[6] It has been suggested that a dentigerous cyst may develop by fluid accumulation either between the reduced enamel epithelium and the enamel or alternatively between individual layers of the reduced enamel epithelium. This fluid accumulation occurs as a result of the pressure exerted by an erupting tooth on an impacted follicle, which obstructs the venous outflow, and thereby, induces rapid transudation of the serum across the capillary wall.^[7]

Oblique projections of the left and right mandible, orthopantomography and occlusal radiographs for the cortical plates vestibularly and lingually would give us a precise information for the cyst and its relationship with the surrounding bone and structures.^[8]

Computed tomography (CT) examination aids in delineating the extent of the lesion. The indications for CT examination of dentigerous cysts are not so familiar. Indications for CT are for larger and multiple cysts, especially in the transitional dentition.^[9]

Complications associated with dentigerous cysts include loss of the permanent tooth, ameloblastoma, bone deformation, pathological bone fracture, and development of squamous cell carcinoma, and mucoepidermoid carcinoma.



Figure 1: Extraoral view



Figure 2: Intraoral view



Figure 3: Pre-operative orthopantomograph



Figure 4: Post-operative orthopantomograph

Conclusion

Dentigerous cysts are usually associated with unerupted teeth. Therefore, it is important to perform a radiographic examination of all the unerupted teeth. Removal of the associated tooth and enucleation of the soft-tissue component is a definitive therapy in most of the cases. In this case, extraction of 37 was done with enucleation of the dentigerous cyst in relation to 38 and 48 was done.

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