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DENTAL SCIENCE
Case Report

Dentigerous Cysts. Case Report

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Abstract

Dentigerous Cysts are odontogenic cysts that develop by accumulation of fluid between reduced enamel epithelium and a crown of an unerupted tooth. It is most frequently found in individuals in the age group between 20 and 40 years. A case of Dentigerous Cyst in a 9-year-old male patient was studied. On physical examination, temporary teeth persistence and swelling of the alveolar process with firm consistency were observed with no handling pain and erasure of the vestibular sulcus was noted in right upper jaw. On occlusal radiograph, a great area radio lucid image involving the whole right alveolar ridge and maxillary sinus with the teeth presence was observed inside. Surgical access to the maxillary sinus was gained under general anesthesia, then the rehabilitation with denture (which denture - partial / complete / cast partial) was made. Dentigerous Cysts are frequently found in our practice, so it is crucial to follow up with research in order to avoid complications and decide on the best treatment according to the individual case of each patient.

Keywords: *Dentigerous Cysts; Treatment of Dentigerous Cysts; Dentigerous Cysts in infants. (no infants were mentioned in this paper)???*

Introduction

Dentigerous Cysts are odontogenic cysts that develop by accumulation of fluid between reduced enamel epithelium and a crown of an unerupted tooth. Such cysts remain initially completely asymptomatic unless when infected and can be discovered only on routine radiographic examination [1,2].

Dentigerous Cystswere described by Paget in 1863 [3]. They are most frequently found in individuals in the age group between 20 and 40. Thus, they generally appear during tooth development in young patients. Single Dentigerous Cysts are the second most common odontogenic cysts after Radicular Cysts. The mandibular third molar and maxillary canines are most frequently involved [4,5].

In addition to the developmental origin, some authors have suggested that periapical inflammation of non-vital deciduous teeth in proximity to the follicles of unerupted permanent successors may be a factor for triggering this type of cyst formation [2]. They are occasionally associated with supernumerary teeth and accounting for 10% of all cysts of the jaws [5, 6]. Unilateral and multiple cysts have been reported in patients with syndromes or systemic diseases, such as Mucopolysaccharidosis and Cleidocranial Dysplasia [4].

The Dentigerous Cyst can produce asymmetries, nerve alterations by compression, move teeth and even become malignant ameloblastoma, mucoepidermoid or epidermoid carcinoma. For this reason, the therapeutic approach becomes important [7, 8].

Radiographs show a unilocular radiolucent lesion with well-defined sclerotic margins that is associated with the crown of an unerupted tooth. Radicular resorption of teeth in the region of the lesion is common. The following are some of the rare complications of Dentigerous Cysts: maxillary cysts may displace and obliterate the maxillary antrum and nasal cavities; mandibular cysts may cause paraesthesia of inferior alveolar nerve, or metaplastic and dysplastic changes may occur. Since the cyst may increase in size, the indicated treatment is surgical removal of lesion and involved teeth, or decompression to salvage the involved teeth [4] [9-12] but the standard treatment for a Dentigerous Cyst involves surgical enucleation and extraction of the cyst-associated impacted or unerupted tooth.

Herein, we present a rare case report of a Dentigerous Cyst in a 9-year-old male. This rare case is reported because of its unusual presentation, aggression and occurrence at this age. To acknowledge the consequences is essential for prevention.

Case report

A 9-year-old masculine patient was referred to our departmentof Centre Havana Pediatric Hospital to assess an increase of volume in the maxillary vestibular sulcus and a dental change alteration in the right upper jaw. The medical historywas not contributory. On physical examination a temporary teeth persistence and a swelling of the alveolar process with a firm consistency was observed with no handling pain and erasure of the vestibular sulcus were noted in upper jaw (Figure 1).

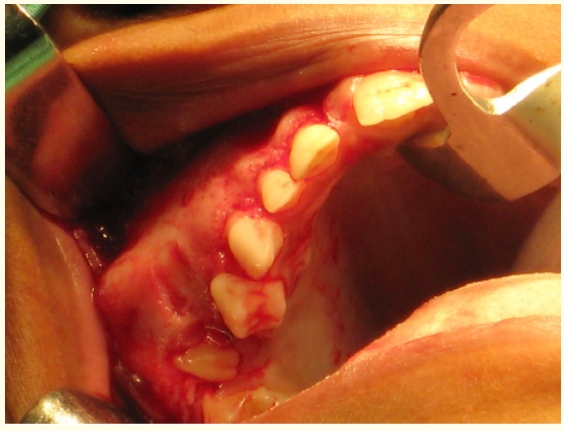


Figure 1:

Anocclusal X-ray was requested. On occlusal radiograph, a great area radio lucid image involving the right alveolar ridge and the maxillary sinus with the teeth presence was observed(Figure 2).

Figure 2:

For afore mentioned reasons, oral surgery was to be done. The antisepsis was 0.12% Chlorhexidine Digluconate and Yodopovidona and the surgical access to the maxillary sinus was gainedunder general anesthesia (Figure 3, 4 and 5).

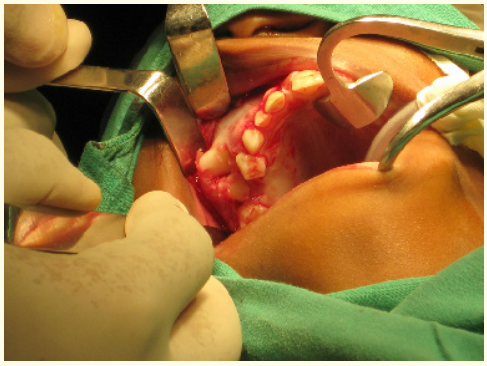


Figure 3:

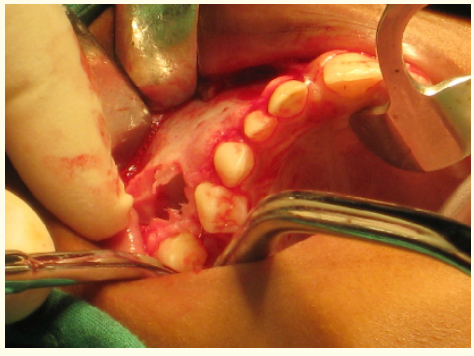


Figure 4:

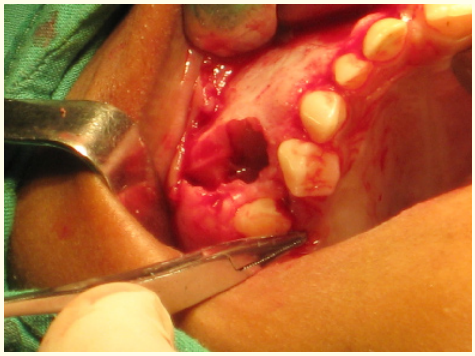
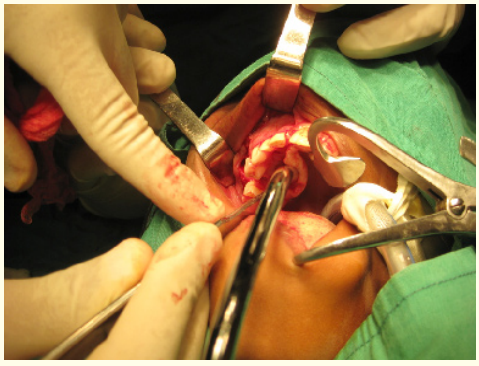


Figure 5:

At that moment, one encapsulated lesion was observed and completely removed with permanent right upper canine tooth involved in the lesion without difficulty (Figure6, 7, 8, 9 and 10).



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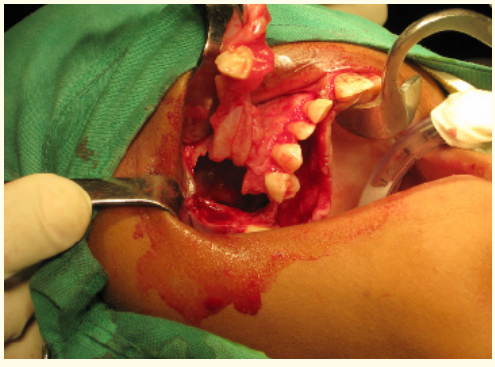
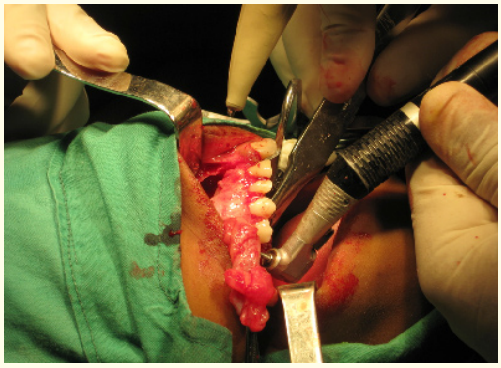


Figure 7:



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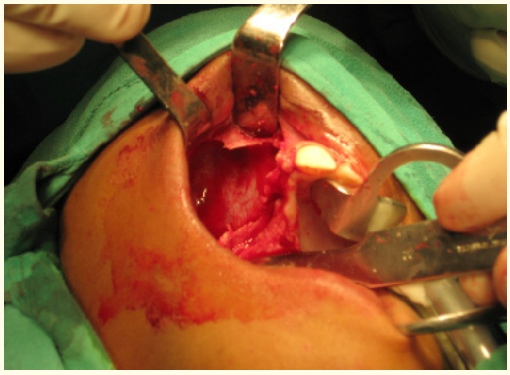

Figure 9:

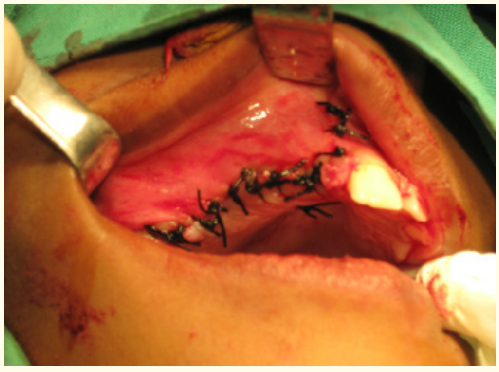

Figure 10:

Histopathological examination revealed a Dentigerous Cyst. The patient was discharged, asymptomatic and rehabilitated with removable denture due to patient's age (Figure11, 12 and 13).

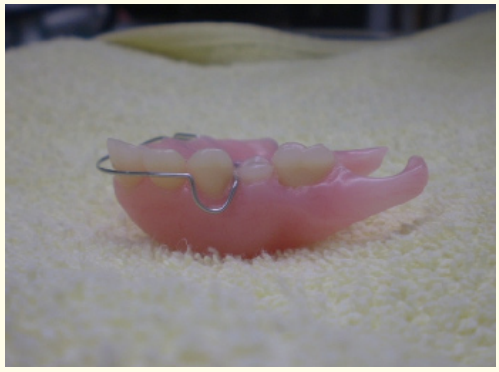

Figure 11:

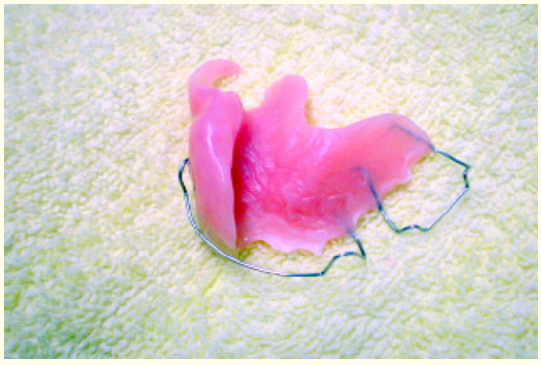

Figure 12:

Figure 13:

Discussion

1. Dentigerous Cyst clinically associated with temporary teeth persistence and no painful swelling of the alveolar process with a firm consistency is described in this case. Three types of Dentigerous Cyst have been described radio-graphically:
    a. The central variety, in which the radiolucency surrounds just the crown of the tooth, with the crown projecting into the cyst lumen.
    b. The lateral variety, in which the cyst develops laterally along the tooth root and partially surrounds the crown, and
    c. The circumferential variant in which the cyst surrounds the crown but also extends down along the root surface as if the entire tooth is located within the cyst [2].

Our case is on the classification of the central variety (Figure 2) and the treatment was more difficult than the other forms.

Despite the cyst's size, surgical treatment was conservative. The surgical treatment consisted on enucleation and extraction of the cyst-associated unerupted teeth. Further more in this case, the cyst involved several teeth; therefore, a partial hemimaxillectomy was done until the first right upper molar having some teeth lost. Similar procedures were done by some authors and through Caldwell-Luc Flap technique [9]. Other authors propose to treat the Dentigerous Cyst by marsupialization [2] and Sirmahan [6] proposesd ecompression for 6 months and enucleation. Surgical treatment is done according to the case. Denture selection was decided according to patient's age in order to change it frequently without interfering in the patient's normal growth. At the end, a definite and fixed denture will be used in the adulthood.

Conclusion

Dentigerous Cysts are frequently found in our practice, so it is crucial to follow up with research in order to avoid complications and decide on the best treatment according to the individual case of each patient. The criteria for selecting the treatment modality is based on the age, size, location, stage of root development, position of the involved tooth and relation of the lesion to the adjacent tooth and vital structure without discarding the big Dentigerous Cysts presence in children under the age of 9.

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