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CASE REPORTS

Tooth cyst in the multidisciplinary dentistry-pediatric care

Quiste dentígero en la atención pediátrica multidisciplinaria

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ABSTRACT

Introduction: the tooth cyst is the second most frequent type of odontogenic cysts and still unknown etiology that comprises about 20% of all cysts found in the jaws. It is usually related to the crown of one or more unerupted teeth. Its great growth potential leads to asymmetries, paresthesia, dental displacement and even neoplastic transformation, so that the therapeutic attitude towards it is of singular importance.
Case Report: a 6-year-old white patient with a health history who came to the orthodontic practice for presenting alterations in the outbreak of the superior incisors, the oral examination showed early mixed dentition with teeth 21 and 22 properly located with

persistence of temporary teeth in contralateral zone, in panoramic X-rays it was observed a wide radiolucent zone with teeth 11 and 12 included in horizontal position. The treatment modality required in this case
Conclusions: with the treatment carried out, the dentigerous cyst was early eliminated, reestablishing the functional aesthetic dental occlusion. The scientific relevance of the case is that this condition is more common in the second and third decade of life, being considered a rare pathology in children.
MeSH: PEDIATRIC DENTISTRY; ORTHODONTICS; DENTIGEROUS CYST/surgery; CUTDOWN/rehabilitation.

RESUMEN

Introducción: el quiste dentígero es el segundo tipo de quistes odontogénicos más frecuente y de etiología aún desconocida que comprende cerca del 20 % de todos los quistes encontrados en los maxilares. Por lo general, está relacionado con la corona de uno o varios dientes no erupcionados. Su gran potencial de crecimiento conduce a asimetrías, parestesia, desplazamiento dentario y hasta transformación neoplásica por lo que la actitud terapéutica ante el mismo, reviste singular importancia.
Presentación del caso: se presenta el caso clínico de un paciente de seis años de edad, raza blanca, con antecedentes de salud que acude a la consulta de Ortodoncia por presentar alteraciones en el brote de los incisivos superiores, al examen bucal presenta dentición mixta temprana con dientes 21 y 22 ubicados de forma adecuada, con persistencia de dientes temporales en zona contralateral, en Rayos X panorámico se observa amplia zona radiolúcida con dientes 11 y 12 incluidos en posición horizontal. Se optó por la modalidad de tratamiento que requiere este caso
Conclusiones: con el tratamiento realizado se logró eliminar el quiste dentígero, así como restablecer la oclusión dentaria funcional y estética. La relevancia científica del caso consiste en que esta condición es más común en la segunda y tercera década de vida, por lo que se considera una enfermedad rara en niños.
DeCS: ODONTOLOGÍA PEDIÁTRICA; ORTODONCIA; QUISTE DENTÍGERO/cirugía; INCISIÓN/rehabilitación.

INTRODUCTION

Esthetics is the main reason that motivates patients and parents to come to the orthodontic service, because the location of the anterior teeth significantly affects facial beauty. (1)

A tooth eruption is a complex event caused by various reasons that provoke the tooth -without being completely formed- to migrate from the inside of the jaw to the oral cavity. Associated to the eruption of the tooth to its final position in the arch, the root is built, and the alveolus is remodeled to receive it and the ligament of the dental alveolus is organized. (2)

The central incisors are the first spare parts and have sufficient amplitude to align themselves with neighboring parts. (2) The comparison with the contra-lateral incisor should serve as a reference when detecting an anomaly and any chronological alteration that separates the eruption from both central parts beyond three months is suspicious, therefore radiographs should be taken to analyze the area and identify the factor that obstructs the eruption of the incisor.(3)

Tooth retention is produced in a secondary way by a series of factors such as: local factors (cysts, traumas), general or systemic (malformations associated with syndromes, genetic diseases, endocrine-metabolic diseases). [4, 5]

The dental cyst is the cause of dental retention and is the second most frequent type of odontogenic cysts of the jaws. They develop from alterations of the epithelium of the enamel organ, where an accumulation of liquid occurs between the epithelium and the enamel.[6,7]

This cyst presents with a cystic lesion associated with an included tooth.[6] The teeth most affected by this disease are lower third molars, canines and lower premolars. Supernumerary teeth may also be affected and comprise 5 to 6 % of dental cysts. This condition is most common in the second and third decades of life, so it is considered a rare disease in children. [3, 6, 7]

In terms of symptoms, the dentigerous cyst is regularly asymptomatic. Pain and discomfort are not common, and may be related to secondary infection of the cyst. [3, 6, 7] Delayed eruption may be an indicator of the presence of the cyst. Due to the absence of symptoms, the cyst can reach large proportions, resulting in compressive bone reabsorption and/or expansion of the bone cortex. Complications such as pathological fracture of the compromised bone, secondary infection, dental dislocations, tooth mobility and facial and bone deformities are also aspects related to dental cysts.[6,8]

They are presented as mostly unilateral, well circumscribed radiolucent images surrounding the crown of an unerupted tooth. Sometimes it encompasses the crown and sometimes contains the entire tooth. At the border with the surrounding bone there is a cortical indicating a slow and uniform growth that represents a bone reaction. The dentigerous cyst can produce reabsorption of the roots in adjacent teeth (rhizolysis) and in the mandible it can displace the associated tooth in a cranial or caudal direction, within the ascending branch of the same. [6, 9]

These cysts have great growth potential, being the most aggressive of the odontogenic cysts and reaching the possibility of neoplasia onset. For this reason, its therapeutic management is of great importance to avoid the permanence of remnants that guarantee the recurrence of the lesion. [9, 10]

These types of cases constitute a challenge for the clinical management of specialists, their accurate and rapid diagnosis is essential for the success of the treatment.

CASE PRESENTATION

A 6-year-old, white race patient with a health history came to the orthodontic office at Hermanos Cruz University Polyclinic, presenting alterations in the eruption of the superior incisors.

Anamnesis shows trauma to upper lip in early childhood. The facial inspection shows asymmetry in the upper lip with slight depression of the same towards the right side. Intraoral examination shows early mixed dentition with teeth 21 and 22 in an adequate way, located with persistence of temporary teeth in contralateral region, deviation of the midline to the right of 1.5 mm and Class I Angle ratio. In the panoramic X-ray, a wide radiolucent zone was observed with root reabsorption of 52; and 11 in a horizontal position in the region of 53 and 54; and 22 is not observed. (Fig. 1)

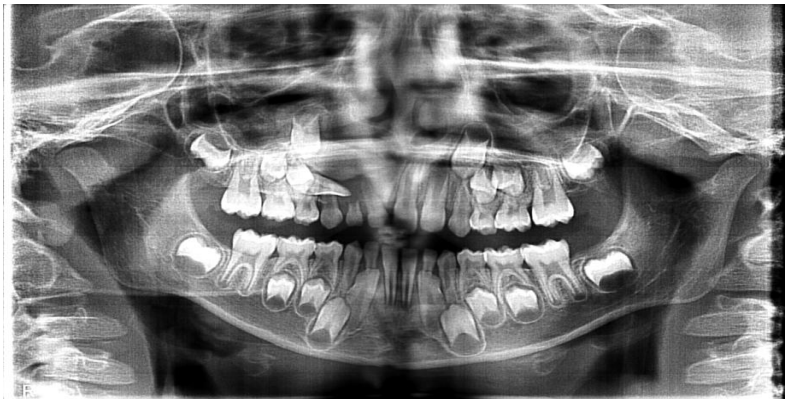

Fig. 1 X-ray panoramic.

Referral is made to the multidisciplinary consultation at Pepe Portilla Provincial Pediatric Hospital where the patient was successfully operated and removing a maxillary dentigerous cyst of large proportions. During the surgical procedure, exodontia of 51 and 52 was performed (Fig. 2).

Fig. 2 Excision of the dentigerous cyst and extraction of 51 and 52

After the surgical procedure, the patient's esthetics were affected by loss of 11 and 12, (Fig. 3), so he received orthodontic treatment with a Hawley Coffin type removable appliance modified to restore esthetics and stimulate maxillary growth as a result the patient can be rehabilitated with a definitively prostheses once he reaches adulthood, (Fig. 4).

Fig. 3 Patient recovered from surgery.

Fig. 4 Orthodontic appliance installation

With the combined surgical and orthodontic treatment it was possible to restore functional and esthetic dental occlusion with favorable changes for the patient's quality of life (Fig. 5).

Fig. 5 Final result of this stage

DISCUSSION

Tooth cysts are usually a possibility to be found in most cases, which are usually discovered by investigating the non-eruption of a permanent tooth. Tooth retention is a frequent phenomenon; however, there is a variation in the prevalence and distribution of retained teeth, as well as in the treatment of this disorder. [8]

At present, the treatment of dentigerous cyst is controversial; it depends on its size, location and whether there is esthetic affection. The surgical techniques indicated in the treatment of this type of lesion are: marsupialization and enucleation. [6]

Few studies have been reported on the management of dental cyst in pediatric patients. There are authors who believe that enucleation is the best type of treatment in childhood because it significantly minimizes recurrence rates. [6]

In this case of such a little child, the esthetics and functional conditions are affected, it was decided to enucleate the cyst as it was of considerable size and with the passage of time and growth potential it would affect other structures, also to avoid a possible recurrence or neoplasia onset described by other authors. [9, 10]

A removable orthodontic appliance was used to restore esthetics, in addition to stimulating maxillary growth and allowing a definitive rehabilitation of the patient.

CONCLUSIONS

A case was presented with a maxillary dentigerous cyst of great proportions that, with the therapeutic modality used, it was possible to remove the cyst, re-establish esthetics, function and improve the patient's quality of life, with the integration of a multidisciplinary activity.

Conflict of Interest
The authors state that there is no conflict of interest.

Authors' contribution
The authors contributed equally to the design of the study.

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