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CASE REPORT

Conservative Management of Large Dentigerous Cysts in Children

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Abstract

Objective: Dentigerous cysts are benign odontogenic cysts which are associated with the crowns of permanent teeth and rarely seen during childhood. In most cases, they are painless and asymptomatic and usually can be detected by routine radiographs. For treatment of dentigerous cysts, the principal surgical methods are enucleation and decompression. The aim of this presentation is to share our experiences in a case series of children with the dentigerous cysts treated by decompression to allow the eruption.

Cases: Dentigerous cysts enclosing the crown of an unerupted/impacted tooth of 4 children aged 7-11 years were treated with decompression with a tube drain. The results of clinical examination, radiologic findings and the treatment of the cysts were presented.

Conclusion: Decompression therapy, which aims to eliminate the cystic tissue and protect the permanent teeth in the dentigerous cyst, is very effective in the management of dentigerous cysts during mixed dentition in the childhood.

Keywords: Decompression, Dentigerous cyst, Children, Conservative

Introduction

Dentigerous cyst (DC) is the second-most common type of odontogenic cyst associated with unerupted/impacted teeth.1,2 The modalities for treating DCs usually consist of surgical techniques such as marsupialization/decompression and enucleation.3

The aim of this study is to present a case series of children with the DCs successfully treated by tube decompression.

Cases

Case 1: A 9-year-old boy referred to our clinic with a chief complaint of swelling over the left cheek. Intraoral examination revealed a swelling on the lower left vestibule. The panoramic radiography (OPG) revealed a well-defined unilocular radiolucency circumscribing the germs of the first and second premolar on the mandibular left side (Figure 1). The mandibular left first and second primary molar were extracted and a silicon tube was placed through the opening (Figure 2). The drain was irrigated using normal saline 3 times a day for 3 months (Figure 3).

Figure 1. Preoperative panoramic radiograph showing the large dentigerous cyst and displaced teeth.

Figure 2. Clinical aspect immediately after decompression

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of the dentigerous cyst, showing a silicone tube made of anesthetic cartridges installed in the cystic cavity.

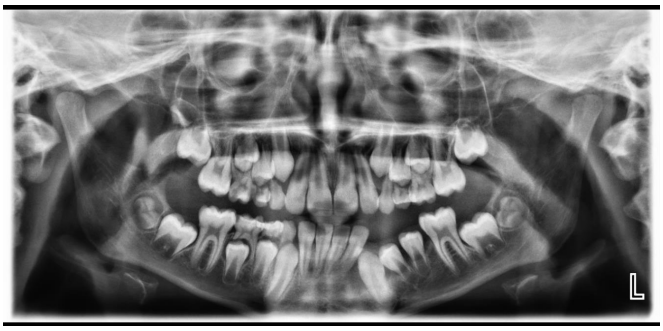

Figure 3. Panoramic radiograph of the case taken at the 4 months after decompression

Case 2: A 7-year-old boy was referred to our clinic for treatment of a lesion in the right lower jaw detected through routine OPG. An intraoral examination revealed an expansion in the region of the mandibular right first primary molar. The OPG showed a well-defined unilocular radiolucency circumscribing the impacted mandibular right first molar. The mandibular right second primary molar was extracted and a silicon tube was inserted through the opening. The drain was irrigated 3 times a day for 3 months.

Case 3: A 10-year-old boy was referred to our clinic with a complaint of pain in the mandible. At intraoral examination, carious lesions were observed in the mandibular right second primary molar and permanent first molar. The OPG showed a well-defined osteolytic lesion circumscribing the unerupted second premolar in mandible. The mandibular right second primary molar was extracted and a silicon tube was inserted through the opening. The drain was irrigated 3 times a day for 5 months.

Case 4: A 11-year-old boy was referred to our clinic for treatment of a lesion detected through routine OPG. Carious lesion was observed in the mandibular right second primary molar in the intraoral examination. Radiographic examination showed a well-defined unilocular radiolucent area circumscribing the unerupted second premolar in mandible. The mandibular right second primary molar was extracted and decompression was performed using a silicone tube. The drain was irrigated 3 times a day for 2 months.

Discussion

Different surgical treatment procedures have been applied to treat DCs. Among them, the conservative treatments such as decompression and marsupialization are very important for the cases of large lesions of jaws and when the permanent teeth involved have eruptive potential.2-5 These two terms were used interchangeably in some articles. However, they have different technical meanings. Decompression implies any means taken to reduce the intracystic pressure. Marsupialization means the conversion of the cyst into a pouch. Therefore, marsupialization means decompressing a cyst.6

Paediatric patients have a great regenerative potential and teeth with incomplete root development maintain the eruptive strength. Therefore, decompression is very effective in the management of DCs during mixed dentition in the children.7 When compared with enucleation, this approach minimizes the risk for complications such as loss of tooth germs and facial bone structures and injuries to blood vessels and nerves. However, follow-up care was required during this treatment period.8 The children reported in this paper were treated only with decompression to preserve the affected teeth. Between 3 and 8-months follow-up visits, a complete reduction in radiolucency with spontaneous eruption of the tooth was revealed in all patients.

In conclusion, decompression should be tried as a major therapy for DCs in children to preserve and promote the eruption of permanent teeth.

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