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Clinical case

Maxillary osteolytic lesion in a 10-year-old girl: A dentigerous or radicular cyst? A case report and discussion

Luciano Alberto de Castro^{a,*}, Sergio Ricardo Campos Maia^b

^a School of Dentistry, Federal University of Goiás, Goiânia, Goiás, Brazil

^b Instituto Tocantinense Presidente Antônio Carlos – ITPAC, Porto Nacional, Tocantins, Brazil

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ABSTRACT

This study discusses the treatment of an inflammatory cystic lesion in mixed dentition that was successfully managed by the classical combined surgical–orthodontic approach. The marsupialization technique was used with the dual purpose of carrying out an incisional biopsy and decompressing the lesion. Complementary 4-year orthodontic therapy resulted in the esthetic and functional alignment of the involved permanent teeth. The study also discusses the pathogenesis of this kind of lesion which can be considered either a radicular or dentigerous cyst. The authors raise doubts about the rarity of radicular cysts associated with primary teeth and emphasize that the traditional criteria used for diagnosing radicular cysts of deciduous teeth as well as those of inflammatory dentigerous cysts must be revisited.

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Lesão osteolítica de maxila em paciente jovem: Cisto dentífero ou radicular? Relato de caso e discussão

RESUMO

Este estudo refere-se a uma lesão cística inflamatória na dentição mista que foi satisfatoriamente tratada por meio da clássica abordagem cirúrgica-ortodôntica. A técnica da marsupialização foi utilizada com o propósito duplo de realizar a biópsia incisional e também promover a descompressão da lesão. O tratamento ortodôntico complementar com duração de 4 anos resultou em alinhamento estético e funcional dos dentes permanentes envolvidos. O estudo também discute a patogénese e a dificuldade para diagnosticar esse tipo de lesão que tanto pode ser considerado um cisto radicular como um cisto dentífero. Os autores levantam uma dúvida sobre a raridade dos cistos radiculares associados aos dentes decíduos e enfatizam que os tradicionais critérios diagnósticos usados para diferenciar esses dois tipos de lesões precisam ser revistos.

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Palavras-chave:

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* Corresponding author.

E-mail address: lualcastro2003@yahoo.com.br (L.A. de Castro).

Introduction

Intra-osseous radiolucent lesions can be frequently encountered in jaws of children and adolescents. These lesions can produce signs and symptoms of pain, swelling and facial asymmetry or otherwise they can be detected by routine radiographic examination.¹

A recent retrospective analysis of 26 years stated that the most frequent intra-osseous lesions encountered in children were radicular and dentigerous cysts. Keratocysts, apical granulomas, odontomas, fibrous dysplasia and malignant lesions were reported as well in a very low prevalence.²

Most of the osteolytic lesions observed in children have inflammatory origin and arise as consequence of progression of caries in the deciduous teeth. As the primary molars have a great susceptibility to caries, it is quite common to observe periapical radiolucency relating to primary molars, particularly mandibular molars.³ In the transitional dentition, these radiolucencies are located in the interradiolar area intimately associated with follicle of premolars. Depending on the time of diagnosis, the radiolucent lesions of transitional dentition can be misdiagnosed as periapical granulomas or radicular cyst of primary teeth or dentigerous cyst from permanent successors.⁴

The purpose of this paper is to present a cystic maxillary lesion in a child that was successfully treated with combined surgical-orthodontic approach after 4 years of follow-up. Furthermore, we discuss the difficulty to establish the correct diagnosis of these inflammatory cystic lesions of mixed dentition that can be considered either radicular cysts from primary molars as inflammatory dentigerous cysts from permanent premolars.

Case report

A 10-year-old girl was referred to our out-patient clinic with an eight-month history of painless swelling in the right side of the maxilla. The patient's medical history was noncontributory. Extraoral examination showed slight facial asymmetry (Fig. 1). The intraoral examination revealed a bluish swelling in right primary molars region and tilting of the right permanent



Fig. 1 – Extraoral aspect showing very slight facial asymmetry.



Fig. 2 – Intraoral photograph revealing a bluish swelling in right primary molar region and tilting of the right permanent lateral incisor.

lateral incisor (Fig. 2). Exploratory puncture-aspiration produced a bloody liquid. The first and second primary molars (54 and 55) were restored with amalgam fillings. The pulp vitality test was negative in 54.

A panoramic and periapical radiographs showed a well-defined radiolucency involving the apices of right maxillary primary teeth, extending from 53 to 55 anteroposteriorly. There was considerable displacement of the permanent teeth, especially the right upper cuspid that was located near to the floor of orbit (Fig. 3). On the basis of clinical and radiographic findings, a provisional diagnosis of inflammatory cystic lesion was made, although the adenomatoid odontogenic tumor was also considered as diagnostic hypothesis.

Bearing in mind the requirement to obtain a fragment of the lesion to microscopic analysis, the major diagnostic hypothesis of inflammatory cyst and the maintenance of the permanent teeth, a conservative approach was planned. Under local anesthesia, the marsupialization technique was performed by: extraction of the right deciduous canine and first and second deciduous molars; and removal of parts of the lesion and suture (Fig. 4). Postsurgical period was uneventful.

Histopathological analysis showed features compatible with inflammatory cyst, revealing a cystic cavity lined by nonkeratinized stratified squamous epithelium, with elongated rete pegs and mixed inflammatory infiltration present in the wall as well in the epithelium. The cystic wall exhibited great amount of collagen fibers, fibroblasts and blood vessels (Fig. 5).

The patient underwent steady 6 months basis radiographic follow-up and orthodontic therapy. After 40 months, there were no clinical and radiographic signs of recurrence of the lesion and the involved permanent teeth could be preserved and kept in an esthetic and functional occlusal relationship (Figs. 6 and 7).

Discussion

The transitional dentition provides an environment to a very special situation in the field of oral diseases that is the

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