



Main non-odontogenic tumors found in children's oral cavity: literature review

Principais tumores não odontogênicos encontrados na cavidade bucal de crianças: revisão de literatura

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ABSTRACT

Pediatricians and odontopediatricians commonly encounter numerous tumors in the oral cavity of infants and children, which may be presented as hamartomas and congenital malformations or even true neoplasms. Hence, this literature review aimed to describe the main non-cystic and non-odontogenic tumor alterations found in the oral cavity of children to help pediatric dentists diagnose and choose the appropriate treatment; this study was based on the scholarly content disclosure database. The articles found in this review were collected in the following databases: Scielo, PubMed, and Google Scholar. The search used the articles published on the theme based on the keywords referring to the subject. In the articles that were included in this study, we observed the degree of relevance to the academic environment, classical evidence, and recent articles published on the subject. It was possible to conclude that most tumors found in the oral cavity of children are benign, and surgical removal has been the primary means of treatment. Thus, it is important to emphasize the importance of a correct diagnosis to assess the type, size, and extent of these lesions and the risks caused during treatment before any procedure.

Keywords: Child. Oral cavity. Prognosis.

RESUMO

Os médicos pediatras e os odontopediatras comumente encontram um grande número de tumores na cavidade oral de bebês e crianças, podendo ser apresentados como hamartomas e malformações congênitas ou até mesmo como verdadeiras neoplasias. O objetivo desta revisão de literatura é descrever as principais alterações tumorais não císticas e não odontogênicas que podem ser encontradas na cavidade bucal de crianças, com a finalidade de ajudar a odontopediatria no diagnóstico e na escolha do tratamento adequado. O estudo foi feito com base em artigos coletados nos seguintes bancos de dados de divulgação de conteúdo acadêmico: SciELO, PubMed e Google Acadêmico. A pesquisa buscou artigos sobre o tema a partir das palavras-chaves referentes ao assunto. Nos artigos que foram incluídos neste estudo, observaram-se o grau de relevância para o meio acadêmico, as evidências clássicas e os artigos publicados recentemente sobre o tema. Concluiu-se que a maioria dos tumores encontrados na cavidade bucal de crianças são benignos e que a remoção cirúrgica tem sido o principal meio de tratamento de tais lesões. Dessa forma, é importante ressaltar a importância de um correto diagnóstico com a finalidade de avaliar o tipo, o tamanho e a extensão dessas lesões, assim como os riscos causados durante o tratamento, antes mesmo da realização de qualquer procedimento.

Palavras-chave: Cavidade bucal. Criança. Prognóstico.

INTRODUCTION

Pediatricians and odontopediatricians commonly encounter numerous tumors in the oral cavity of infants and children, which can be presented as hamartomas and congenital malformations and even true neoplasms (Tröbs, Mader, Friedrich, Bennek, 2003).

The tumors of odontogenic origin represent a highly diverse group of lesions with histopathological particularities and diverse clinical expressions. The mode of action of these lesions includes hamartomatous proliferation, benign non-aggressive, aggressive, and malignant tumors (Buchner, Merrel & Carpenter, 2006).

Odontogenic tumors have become a subject of great interest for oral pathologists; these lesions make up 2.5% of all lesions, where they are submitted to histopathological study in dental offices (Mosqueda-Taylor et al., 1997; Antunes, Silva, Antunes & Romualdo, 2006). Given the plurality of the types of lesions that can arise from odontogenic tissues, many identification schemes have been published to determine their standards for diagnosis (Buchner et al., 2006).

These lesions have exhibited many geographic variations in their arrangement (Antunes et al., 2006). Several studies developed in various parts of the world have shown distinction in the relative prevalence of these tumors (Ladeinde et al., 2005). In the literature, few reports have been published regarding the frequency of odontogenic tumors in Latin America, especially in Brazil (Santos et al., 2001); in a survey of 362 cases in Chile, one study reported a frequency of 1.29% (Ochsenius et al., 2002).

Given this scenario, this literature review aimed to describe the main non-odontogenic tumor changes found in the oral cavity of children to help pediatric dentists diagnose and establish the appropriate treatment.

MATERIAL AND METHODS

This study was based on the database of the primary means of dissemination of academic content. The articles used in this study were found in the following databases: Scielo, PubMed, and Google Scholar. The search used the articles published on the theme using the keywords: 'oral cavity,' 'child,' and 'prognosis.' In the articles that were included, we observed the degree of relevance to the academic environment, classical evidence, and recent articles published about the subject.

RESULTS AND DISCUSSION

Papilloma

It is a benign neoplasm and has a slightly stratified squamous epithelium due to oral acanthosis (Abbey, Page & Sawyer, 1980; Das, S. & Das, 1993). Oral papilloma can also be associated with HPV infection by vertical transmission and auto- and hetero-inoculation by genital, sexual, or personal contact (Puranen et al., 1996; Tseng, Liang, Soong & Pao, 1998; Wang, Zhu & Rao, 1998; Xu, Liu, Lu & Ren, 1998; Syrjanen & Puranen, 2000). Clinically speaking, it presents a painless, well-delimited, pedunculated exophytic growth with several small digitiform projections and a surface resembling a cauliflower (Abbey et al., 1980). This lesion is treated with the surgical excision of the lesion; nonetheless, laser ablation has currently been proposed, with little chance of recurrence (Eversole, 2000; Cabov et al., 2004).

Hemangioma

Hemangioma is described as one of the most prevalent non-odontogenic tumors in children, and its clinical characteristic is the proliferation of blood vessels (Mulliken & Glowacki, 1982; Tröbs et al., 2003; Reinisch et al., 2004). It is a lesion that generally affects the lips, tongue, jugal mucosa, alveolar mucosa, and gums (Barrett & Speight, 2000), which may suffer traumas with ulceration, secondary infections, and pain. It has a predilection for the female sex in a proportion of 3:1 (David, Malek & Argenta, 2003).

In clinical examinations, hemangiomas are subdivided into capillary and cavernous. The capillary is the most common incidence and occurs clinically as a bright red stain that may gradually become elevated and even present spontaneously involute. The cavernous form is infrequent and clinically presents as a bulky, elevated, bright-red lesion. Patients are basically oligosymptomatic, although hemangiomas can also cause neurological impairment in cases of great extension, given they are associated with a greater magnitude due to the occurrence of intravascular thrombosis or channel section, which causes intralesional bleeding (Luis, Rosa & Tâmega, 2004). The prognosis of this lesion is good, having as characteristic the advantage of not being a lesion with a high malignancy degree, not presenting recurrence after treatment (Barrett & Speight, 2000).

Lymphangioma

It is an uncommon tumor that appears with great frequency; usually, 50% of lymphangiomas appear at birth, and roughly 80 to 90% appear in the first three years of life. The region of the back of the tongue is the most common location, although it can also appear on the lips, jugal mucosa, soft palate, and floor of the mouth (Delbem, Correia, Pugliesi, Crivelini, 2001; Iamaroon, Pongsirivet, Srisuwan & Krisanaprakornkit, 2003). There are three forms of lymphangiomas: capillary lymphangioma, cavernous lymphangioma, and cystic hygroma, depending on the size of the lymphatic vessels. The lesions are usually asymptomatic but can cause pain and discomfort during speech, chewing, or swallowing when associated with large lesions (Delbem et al., 2001).

There is usually no treatment for small lymphangiomas of the oral cavity because they spontaneously decrease in size, partially or completely. The greatest difficulty for treating lymphangiomas is associated with the high percentage of recurrence of the lesion (Delbem et al., 2001; Iamaroon et al., 2003).

Congenital epulis of the newborn

It is a benign gingival tumor exclusive to newborns found on the maxillary ridge, commonly at the site of canines and incisors. The characteristics of these lesions may be highly concerning to the parents; their development stops after birth and they may even decrease in size (Cussen & Macmahon, 1975; Lack, Perez-Atayde, McGill & Vawter, 1982; Lacalle, Aguirre, Irizabal, & Nogues, 2001; Reinisch et al., 2004). The nomenclature congenital granular cell lesion (CGCL) seems to be the appropriate term because the lesion is not solely restricted to the alveolar ridge, and the term epulis has the meaning of gingival swelling (Godra, D'Cruz, Labat & Isaacson, 2004).

In view of the debate about the etiology of CGCL, the literature agrees that its nature is benign. Reports of spontaneous regression confirm its harmless behavior, and recurrence does not occur even after an incomplete excision is done. The literature does not describe a significant proliferative cellular activity or clinical increase after birth (Loyola, Gatti, Pinto & Mesquita, 1997; Merrett & Crawford, 2003; Bilen et al., 2004; Godra et al., 2004; McGuire, Gomes, Freilich & George, 2006; Kanotra, S., Kanotra & Paul, 2006). Nonetheless, in a study carried out by Atterbury and Vazirani (1968), it was possible to observe increased edema injury in the inflammatory response associated with feeding trauma (Loyola et al., 1997).

Diagnosis is essential for early treatment because this alteration can hinder breathing and make breastfeeding difficult for the newborn (Merrett & Crawford, 2003). It has a predilection for the female sex in a proportion of 10:1; hence, hormonal factors may be involved in the development of this lesion (Evans, 2001).

From the clinical perspective, it is characterized as a circular, single-shaped, smooth-faced, reddish-colored, or mucosa-colored swelling that can range from 0.5 to 9.0 cm in diameter. Treatment is done with simple surgical excision or CO₂ laser with an excellent prognosis and no reports of recurrence (Lacalle et al., 2001; Tröbs et al., 2003).

Pyogenic granuloma

Pyogenic granuloma is a non-neoplastic tumor-like lesion represented by an inflammatory process in response to irritation or mild local trauma (Butler & Macintyre, 1991; Rivero & Araújo, 1998). The most common site of the lesion is in the gums, located in the anterior region of the maxilla, followed by the tongue, lips, and jugal mucosa (Das, S. & Das, 1993; Rivero & Araújo, 1998; Al-Khateeb & Ababneh, 2003).

On clinical examination, a painless reddish nodular mass can be noted. The surface may be flat or corrugated, and it is often ulcerated and surrounded by a yellowish-white pseudomembrane. The lesion is soft to palpation with the possibility of spontaneous bleeding or after mild irritation (Aguilo, 2002).

The treatment is performed with surgical removal and eliminating local factors that act as mucosal irritants, avoiding the recurrence of the lesion (Rivero & Araújo, 1998).

CONCLUSION

After reviewing the articles selected for the theme, it was possible to conclude that most tumors found in the oral cavity of children are benign, and surgical removal has been the leading method of treating these lesions. Therefore, it is pivotal to emphasize the importance of correct diagnosis to assess the type, size, and extent of these lesions, as well as the risks caused during treatment before any procedure.

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