

TUMORES VASCULARES DE INTERESSE ODONTOLÓGICO: ASPECTOS CLÍNICOS E FORMAS DE TRATAMENTO

VASCULAR TUMORS OF DENTAL INTEREST: CLINICAL ASPECTS AND FORMS OF TREATMENT

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RESUMO:

Os hemangiomas são neoplasias benignas dos tecidos moles. São lesões caracterizadas pela proliferação de células endoteliais. **Objetivos:** O objetivo deste trabalho é demonstrar por meio de uma revisão da literatura os principais hemangiomas de interesse odontológico e suas características clínicas e abordagens terapêuticas. **Revisão de literatura:** O estudo mostrou prevalência de até 6% na população geral, sendo o tumor mais comum na infância. Essas lesões apresentam rápido crescimento pós-natal, que pode levar meses a dois anos em média, mas geralmente após esse período ocorre sua involução. O diagnóstico é comumente baseado nas características clínicas e na história do paciente. É importante entender que o estudo histopatológico pode ser necessário nos casos em que o diagnóstico é incerto, para diferenciá-lo de outras neoplasias graves. Destacam-se as principais complicações relacionadas a lesões, ulcerações e hemorragias, além de infecções secundárias que podem causar alto índice de morbidade. Assim, é fundamental que o dentista reconheça essas patologias e tenha capacidade para tratá-las. **Considerações finais:** Foi possível observar que os hemangiomas são manifestações vasculares incomuns para o cirurgião-dentista, porém o profissional deve saber diagnosticá-los e tratá-los. Dentre as áreas acometidas, essas lesões são frequentes na cavidade oral e o tratamento consiste em acompanhamento com intervenções conservadoras.

UNITERMOS: Hemangioma. Neoplasia. Tratamento.

INTRODUCTION

Hemangioma is a clinical term for benign soft tissue neoplasms common in the head and neck region. These are lesions characterized by the proliferation of endothelial cells. It is important to highlight that this tumor is more commonly found in newborns and in childhood, even though in some cases they can develop in adulthood¹.

It is known that it can affect other regions besides the oral cavity, but it usually affects the lips, tongue, cheek mucosa and palate. When this is intraosseous, it mostly affects the mandible, but it can also occur in the maxilla. This pathology is usually

asymptomatic, but can ulcerate and cause pain due to tissue compression and subsequent hemorrhage, secondary infections and tissue deformation².

Clinically, its color varies from dark red to purple, and it becomes pale under glass pressure. Microscopically it is seen as numerous intertwined capillaries lined with blood-filled endothelial cells and the presence of mast cells. Its complications are more associated with noble areas of the face that provide a higher rate of morbidity, such as eyes, neck and larynx².

To differentiate hemangiomas from vascular malformations, the clinical features are analyzed. Because hemangiomas are not present at birth, but

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develop over the weeks. On the other hand, vascular malformations are visible at birth, in addition, hemangiomas have a rapid proliferation over the years³.

About diagnosis, since hemangioma and vascular malformations have characteristics similar to other lesions in the oral cavity, other complementary methods may be necessary in addition to intraoral examination. Asdiascopy, which consists of compression by a glass slide on the lesion, which due to vascular emptying, the lesion presents with a pale color and with a smaller size. Histopathological analysis and imaging exams can still be done in cases of intraosseous hemangiomas⁴.

Usually, these injuries only requires follow up until natural regression. However, some cases have more aesthetic concerns for the patient or even greater complications such as infections or hemorrhages, which is indicated immediate intervention, which are usually the use of medication, sclerotherapy, cryotherapy, laser therapy and surgery⁵.

This work aims to comprehensively present the clinical management of hemangiomas, their clinical characteristics and forms of treatment.

MATERIALS AND METHODS

The present study consists of a literature review carried out through a bibliographic survey available in online databases: Academic Google, Medline, Lilacs and BBO. Still, the keywords confirmed by the Health Sciences Descriptors (DESCS) used were: "Hemangioma"; "Treatment" and "Neoplasia" and these in English: "Hemangioma"; "Treatment" and "Neoplasm".

Regarding the inclusion criteria, only articles and course completion papers written in Portuguese and English were addressed, with full text available in electronic support, published in national and international journals published between 2007 and 2020.

While the exclusion criteria are theses, chapters, congress or conference proceedings, technical reports and articles that do not fit these characteristics and do not present a relationship with the studied area will be discarded. Or, in languages other than English and Portuguese published on dates less than 2007.

Thus, after choosing the texts through the reading of abstracts and article objectives, the most pertinent ones were selected, within the proposition addressed to compose this review.

LITERATURE REVIEW

Vascular tumors are neoplasms of vessels (cell proliferation) and include childhood hemangioma, rapidly involuting congenital hemangioma and non-involuting congenital hemangioma, and these have a greater predilection in the working area of dentists, affecting more regions of the head and neck. Thus, in this topic we will address each of them according to their clinical characteristics and means of treatment⁶.

It is considered the most prevalent tumor in childhood and in women, with a rate of approximately 10% in children up to one year of age. The authors also claim that the risk is greater when the mother during pregnancy has undergone a chorionic villus biopsy. Most patients have solitary lesions, being the skin is the most affected organ, followed by the head and neck regions with the highest prevalence. The size of the lesion can start from millimeters to centimeters⁷.

These tumors are rarely present at birth, but develop over the next few weeks of the patient's life, in some cases in the first few days of life a pale macula with telangiectasias can be seen on the patient's skin. The tumor has a rapid evolution in relation to the child's development⁶.

Regarding their clinical characteristics, they are firm consistency and rubbery to the touch, blood cannot be evacuated with pressure. In cases of deep tumors, these may be blue. The proliferative phase usually extends for 10 months, after which growth reduction and involution are expected, the color turns purple and the lesion is less firm to palpation. It is worth noting that half of the hemangiomas will regress by themselves until 5 years of age⁸.

Its histopathological features present several voluminous endothelial cells and vascular lumens usually indistinct. Their etiopathogenesis is not well understood, but the literature states that they are the result of an imbalance in angiogenesis that led to the disordered proliferation of vascular elements. Diagnosis is based on clinical findings and clinical history. In addition, the most common complication in this case consists of ulceration resulting from secondary infection, which occurs in approximately 20% of childhood hemangiomas⁹.

According to Neville³, when hemangiomas affect crucial areas, they are related to a high rate of morbidity. Since periorcular tumors cause amblyopia – reduced vision, strabismus or astigmatism. Or, in cases of multiple or large cutaneous facial hemangiomas, they present a risk for the occurrence of visceral hemangiomas. Furthermore, tumors in the neck and larynx can cause upper airway obstruction.

Congenital hemangiomas are rare, the proliferative phase occurs in intrauterine life. Thus, these are fully developed at birth and do not provide postnatal growth. Therefore, different from childhood hemangioma. They can develop in both sexes and their most prevalent location is in the head and neck region¹⁰.

It is currently possible to establish a diagnosis during prenatal care through obstetric ultrasound. When these vascular tumors involute naturally and quickly, they are called rapidly involutive congenital hemangioma or when they do not involute and accompany the child's growth, they are non-involutive congenital hemangioma (HCNI)¹⁰.

HCNI in its clinical characteristics matches a somewhat elevated plaque or swelling form, hardened

consistency and is usually warmer than the adjacent skin. It can have dimensions, round or oval in shades of pink, covered by thick and prominent telangiectasias. However, HCRI has different forms, flat lesion with subcutaneous or deep dermal infiltration; raised and soft reddish swelling; or, high swelling, softened, grayish with several telangiectasias¹¹.

Most cases can be diagnosed through clinical history and objective examination. However, the differential diagnosis refers to tufted angioma, kaposiform hemangioendothelioma, among other neoplasms similar to hemangioma, such as angiosarcoma and fibrosarcoma. Thus, when the diagnosis is not clear, complementary tests may be requested, such as echography, magnetic resonance (MR) and biopsy. Its histological features show lobularity with fibrous stroma, in addition to hemosiderin, focal thrombosis and sclerosis of the lobular capillaries. They may show a reduction in proliferating mast cells and capillaries¹².

In cases of RICH, its involution usually occurs days and weeks after birth. This can occur through a color change, peeling and crusting. However, when these remain firm and do not show involution, it may be difficult to differentiate from other more severe tumors, such as congenital fibrosarcoma, and it is recommended that a histopathological study be performed immediately. Regarding its complications, ulceration and bleeding are more frequent.

Treatment is individual and should consist of an interdisciplinary approach. These patients must be monitored every month. Therapeutic means consist of systemic corticosteroids and embolization. Surgical intervention is recommended in cases of persistent ulceration, bleeding lesions and hemodynamic instability¹².

Surgical removal of the lesion for a long period was the method of choice for treating these lesions. However, more modern methods have been used, as they provide more comfort to the patient and leave fewer postoperative scars¹³.

Cryotherapy is a technique performed using a cryo-spray that provides a very fine jet of nitrogen applied to the surface of the lesion. Thus, cryotherapy consists of the application of the cryogenic substance at low temperatures aiming at tissue destruction. This procedure has a high rate of acceptability among patients, as it provides little discomfort, no bleeding and little or no scarring. In addition to the low infection rate and consistent with a simple and low-cost application¹⁰.

Cases of problematic hemangiomas, drug therapy is indicated and the use of systemic corticosteroids may help to reduce the lesion. In addition, topical corticosteroids are also used in this modality of therapy and have guaranteed good results. The sclerotherapy technique has also been used, as it is safe, conservative and inexpensive. It is classified as tissue irritation induced by a thrombogenic agent

that provides an inflammatory reaction followed by fibrosis and obliteration of vascular channels¹⁴.

Another way is through the pulsed light laser of short duration, which can be used in cases of "port wine" stains. Still, the use of laser surgery is a widely used method since it causes the removal of the lesion and also reduces bleeding. Because, the laser has characteristics capable of obliterating blood vessels¹⁴.

Therefore, there are several forms of treatments, but the patient must be evaluated and the planning is done individually and in an interdisciplinary way among other health professionals. The treatments presented are aimed at curing the hemangioma and should be evaluated by various aspects, according to their indications, limitations and their effectiveness¹⁵.

DISCUSSION

Mulliken and Glowacki¹⁶, in 1982, proposed a classification for vascular lesions according to their cellular characteristics, thus conceptualizing hemangiomas as fast-growing endothelial proliferation, yet presenting a gradual involution. Despite this, there is still confusion among dentists between this clinical entity and another vascular lesion, hematomas, which would be vascular malformations^{17,18,19}.

Thus, hemangioma according to the World Health Organization (WHO) is defined as a benign neoplasm of recurrent vascular proliferation in the head and neck region¹⁹. Silva et al.¹⁷ and Cruz et al.¹ stated in their studies that more than 50% of hemangiomas occur in this region, however, Corrêa et al.²⁰ stated that these lesions are rare in the oral mucosa, thus meeting these authors.

Hemangiomas are more prevalent in childhood, Adams et al.²¹ stated in their study the prevalence of this lesion in about 4 to 5% of babies, however, Cruz et al.¹ and Silva et al.¹⁷ reported cases of this clinical entity in elderly individuals, thus demonstrating the possibility of affecting this lesion at any age. According to Neville³ and Queiroz et al.¹⁹ these lesions have a predilection for females, however, Angelo et al.²² stated in their study the prevalence of 54% of cases in males.

The etiology of hemangiomas is still under debate in the literature, Frongia et al.²³ and Cruz et al.¹ reported the link of these lesions with congenic anomalies, endocrine alterations, and non-specific inflammatory processes. Cardoso et al.¹⁸ and Tavares et al.²⁴ found trauma as a predisposing factor for the proliferation of vascular tissues.

Regarding diagnosis, hemangiomas are diagnosed by clinical examination or imaging exams²⁵. The use of radiographic exams, tomography or Doppler ultrasonography is of great importance in diagnosing the central (intraosseous) type of hemangiomas, thus being able to evidence the size, anatomical limits and vascular nature of the tumor^{18,19}.

As for the therapeutic approach, the literature shows numerous possibilities, however it is known that in the case of vascular lesions such as

hemangiomas, incisional type biopsies should never be performed, both for diagnostic and treatment purposes, since there is a great possibility of bleeding episodes^{18,25,26}. Thus, Silva et al.¹⁷ guides the existence of main objectives for the treatment of these injuries – to prevent the occurrence of future complications such as hemorrhages, prevent cosmetic deformities in cases of large facial hemangiomas, avoid aggressive treatments and thus minimize the risk of infections.

For small lesions, the use of sclerotherapy is the most recommended, with total or partial regression being possible²⁷. Despite being a minimally invasive technique, Queiroz et al.¹⁹ reiterate in their work the importance of care in the application/use of a sclerosing agent carefully injected only in the area of the lesion and its quantity should not exceed 2 mL, thus preventing necrosis in the underlying tissues. Monoethanolamide is not recommended for pregnant women because it has teratogenic effects.

CONCLUSION

Hemangiomas are vascular manifestations with little incidence, nor are they common for the dental surgeon, however, the professional must know to diagnose and treat them. Among the affected areas, these lesions are frequently seen in the oral cavity, usually affecting the lip, tongue, buccal mucosa and palate, being asymptomatic in most cases. Studies on the subject are necessary for the optimal management and guidance of patients.

ABSTRACT

Hemangiomas are benign soft tissue neoplasms. These are lesions characterized by the proliferation of endothelial cells. **Objectives:** The objective of this work is to demonstrate through a literature review about the main hemangiomas of dental interest and clinical characteristics and therapeutic approaches. **Literature review:** The study showed a prevalence of up to 6% in the general population, being the most common tumor in childhood. These lesions presents a rapid postnatal growth, which may take months until two years on average, but usually after this period their involution occurs. The diagnosis is commonly based on clinical characteristics and patient's history. It is important to understand that the histopathological study may be necessary in cases that the diagnostic is uncertainty, in order to differentiate it from other serious neoplasms. Main complications related to injuries, ulceration and hemorrhage can be highlighted, in addition to secondary infections that can cause a high rate of morbidity. Thus, it is essential that dentists recognize such pathologies and be able to treat them. **Final considerations:** Was possible do observe that hemangiomas are uncommon vascular manifestations for the dental surgeon, however, the professional must know to diagnose and treat them. Among the affected

areas, these lesions are frequently seen in the oral cavity and the treatment consists of following up with conservative interventions.

UNITERMS: Hemangioma. Neoplasm. Treatment.

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