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Review Article

A REVIEW OF HEMANGIOMAS OF THE ORAL CAVITY

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ABSTRACT

Benign lesion of the blood vessels or vascular elements is called as hemangioma. The majority of oral and oropharyngeal hemangiomas seem to be of a developmental nature often present at birth or shortly thereafter. Vascular lesions may be hemangioma, lymphangioma or other lesions. In some instances lesions are probably a mixture of hemangioma and lymphangioma, leading to the term angiomatosis. In oral cavity hemangioma can occur at various sites, but they have a strong preference for the occurrence in the tongue and floor of the mouth. Occurrence of the hemangioma within the jawbones is rare. The color of a hemangioma may vary from bluish to purple or fiery red. The present article reviews the various aspects of the oral hemangiomas.

Keywords: Hemangioma, Neoplasm, Historical aspects, Oral cavity, Vascular lesions.

INTRODUCTION

Vascular lesions are among the most common congenital and neonatal abnormalities. Benign vascular lesions are a consequence of blood vessel abnormalities or endothelial cell proliferation[1].

Various terms has been used to describe vascular lesions, which are classified either as vascular malformations or hemangiomas. Hemangioma is a term that consists of a heterogeneous group of clinical benign vascular lesions that have similar histologic features[2].

The word "hemangioma" has been widely used in the dental and medical literature with reference to a variety of different vascular anomalies which has traditionally led to a significant amount of confusion regarding the nomenclature of these lesions[3].

Hemangioma is the most common benign vasoformative tumors of infancy and childhood. They usually are manifested within the first month of life, exhibit a rapid proliferative phase, and slowly involute to near complete resolution[4].

The benign, localized tumor of the blood vessels is called as hemangioma. Most of the benign vascular lesions occurring in the head and neck region usually have a malformation, hamartomatous basis. In recent years, the classification of vascular tumors and tumor-like conditions has been extensively modified, with the addition of several newly described entities and the redefinition of several previously known lesions[5].

Historical aspects:

First case of hemangioma was documented by Liston (1843).[5] Later in 1867, Virchow described the first case of vertebral hemangioma. Kasabach and Merrit (1940) reported a case of hemangioma involving the skin and deep soft tissues of the thigh[6].

Hemangioma: Hamartoma or neoplasm:

Recently in 2004, Danielle A Katz defined hemangioma as an abnormal proliferation of blood vessels that may occur in any vascularized tissue and that considerable debate exists as to whether these lesions are neoplasms, hamartomas or vascular malformations[5].

Hemangiomas occupy a gray zone between hamartomatous malformations and true neoplasms. They are frequently designated and regarded as tumors because of their usually localized nature and mass effect. The fact that they consistently lack chromosomal alterations, speaks against a true neoplastic nature. The theory that hemangiomas are neoplasms was strongly supported by the study of Mulliken and Glowacki (1982)[5].

Classification:-

Hemangiomas are classified by Shafer et al (1993) as follows[7]:-

- Capillary hemangioma
- Cavernous hemangioma
- Angioblastic or hypertrophic hemangioma
- Racemose hemangioma
- Diffuse systemic hemangioma

- Metastasizing hemangioma
- Nevus vinosus or port-wine stain
- Hereditary hemorrhagic telangiectasia

Hemangioma is histologically also classified into capillary and cavernous forms. The hemangioma is a tumor of mesenchymal origin, which is characterized by the formation of vascular tubes of endothelial cells[8].

1. Capillary hemangioma[8]:-
   Composed of man small capillaries lines by a single layer of endothelial cell supported in a connective tissue stroma of varying density.
2. Cavernous hemangioma[8]:-
   Formed by large, thin walled vessels, or sinusoids lined by epithelial cells separated by thin layer of connective tissue septa.

Clinical features:

Clinically, hemangiomas of the oral soft tissues are benign, enlarged, vascular hamartomas appears as a painless, soft, smooth or lobulated, sessile or pedunculated mass and may be seen in any size from a few millimeters to several centimeters. The development of these lesions is usually slow and presents with deep red or bluish red in color and moderately firm to palpation.[8,9]

Typically, the lesion has a light bluish hue and is soft. They are very compressible and fill up slowly again, thus the characteristic "Blanching" effect is noted[4,10].

The majority of hemangioma involves the head and neck. However, they are rare in the oral cavity but may occur on tongue, lips, buccal mucosa, gingiva, palatal mucosa, salivary glands, alveolar ridge, and jaw bones[4,11].

They occur early in life and are more common in girls than in boys. Hemangiomas may enlarge rapidly or progressively as the patient grows. They are usually painless but may ulcerate and possibly hemorrhage if traumatized[8,11].

Pathogenesis:

The etiology and pathogenesis of hemangiomas remains unknown or incompletely understood. It is reported that childbearing age, gestational hypertension and infant birth weight may be related to the formation of hemangioma.[6]

However, various theories have been proposed to elucidate the mechanism and pathogenesis of hemangioma. Aberrant and focal proliferation of endothelial cells results in hemangioma, although the cause behind this remains unclear.[12] The placental theory of hemangioma origin has been described by North et al[13], who studied various histology and molecular markers such as GLUTI, Lewis Y Antigen, Merosin, CCR6, CD15, IDO, FC, and gamma Receptor II. Positive staining for GLUTI is considered highly specific and diagnostic for hemangioma, and it is useful for making differential diagnosis between hemangioma and other vascular lesions clinically related to it. More recently, somatic mutational events in gene involved in angiogenesis are related to hemangioma growth[4,12].

Differential diagnosis:

A variety of other lesions can resemble hemangioma in the oral cavity. The differential diagnosis includes pyogenic granuloma, chronic inflammatory gingival hyperplasia, epulis granulomatosa, telangiectasia, angiosarcoma, squamous cell carcinoma, and other vascular appearing lesions of face or oral cavity such as Sturge Weber Syndrome[4].

Management:

Management of hemangioma depends on a variety of factors including the age of the patient and the size and extent of the lesions, as well as their clinical characteristics, and most true hemangioma requires no intervention. Some congenital lesions may undergo spontaneous regression at an early age. If superficial lesions are not an esthetic problem and are not subject to masticatory trauma, they may be left untreated.[2]

However, 10–20% requires treatment because of the size, exact location, stages of growth or regeneration, functional compromise, and behavior. The potential for severe hemorrhage caused by the vascular nature of the lesion must be considered. The range of treatment includes surgery, flash lamp pulsed laser, intralesional injection of fibrosing agent, interferon alpha-2b, and electrocoagulation while cryosurgery, compression and radiation were used in the past[4,8].

CONCLUSION

Hemangiomas are the benign lesions commonly identified by rapid endothelial cell proliferation occurring in the early infancy and usually followed by spontaneous regression over time. They are common in the head and neck region, but relatively uncommon in the oral cavity proper. Certain cases of the hemangioma do not regress with time and may present with complication that requires treatment.

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