

PREVALENCE OF TONGUE HEMANGIOMAS IN WESTERN RAJASTHAN, A CROSS-SECTIONAL STUDY

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Abstract

Hemangioma is a developmental vascular malformation capillaries that do not involute but persist and grow very slowly over years. They are mostly found on the cheeks, upper lip, and eyelids, and rarely in the oral cavity, especially on the tongue. The diagnosis of hemangioma is mainly based on history, clinical evaluation and diascopy test Here in this study, prevalence of hemangioma was observed to be 1.2% with a male female ratio 5:1. Further studies should be conducted to determine correlation with age sex and site of occurrence of hemangioma.

Keywords Hemangioma, Diascopy, Vascular lesions

INTRODUCTION

Vascular lesions are among the most common congenital and neonatal abnormalities.¹ Benign vascular lesions are a consequence of blood vessel abnormalities or endothelial cell proliferation. Various terms has been used to describe vascular lesions, which are classified either as vascular malformations or hemangiomas.^{2,3}

Hemangioma (Greek: Haima-blood; angeion-vessel, omatumor) is defined as a tumor of dilated blood vessels. Hemangioma is a term that consists of a heterogeneous group of clinical benign vascular lesions that have similar histologic features.⁴ First case of hemangioma was documented by Liston (1843). Later in 1867, Virchow described the first case of vertebral hemangioma. Kasabach and Merrit (1940)⁵ reported a case of hemangioma involving the skin and deep soft tissues of the thigh. They are most common vascular tumors of infancy and childhood. Hemangioma are of two types-capillary and cavernous. They appear in the 1st month of life and are characterized by rapid proliferative phase and slow involution, to near spontaneous resolution.

Nearly 60-70% of the lesions are found in head and neck.^{6,7} Tongue hemangioma is a rare case of vascular tumors that causes symptoms such as pain, bleeding, difficulty in chewing, speaking, and breathing.⁸ Hence, We conducted a cross sectional study to determine the prevalence of hemangioma occurring on the tongue.

MATERIALS AND METHODS

Study design had been cross sectional. All the subjects reporting to the OPD of Oral Medicine Radiology and Diagnosis at Vyas dental college, Jodhpur in Western Rajasthan were screened for a period of 1 year from June 2021 to May 2022. Clinical examinations were performed under artificial light and standard examination procedure covering all oral mucosa sequentially and findings were recorded on Modified W.H.O health assessment form⁹.

Patients who had quid habit or known to having other deleterious habits like, smoking, alcohol, drug addiction or other drugs or having history of grafts placement or had taken any treatment for any oral mucosal lesion had been excluded from the study.

Clinical findings were evaluated using the diagnostic criteria¹⁰ for identification of hemangioma or AV malformations and were confirmed by the qualified oral medicine specialist. Ethical clearance was obtained from the ethical committee. A written informed consent was taken from the subjects who volunteered. Diagnosis of hemangioma was based on history, clinical examination and diascopy test. Diagnostic panoramic radiograph Ortho pantomogram views (OPGs) had been performed and archived on the same radiological device (Kodak 8000 C operated at 8-12 mA, peak voltage ranging from 70-80 Kvp to observe any radiolucent area at the periapical region of premolar teeth or any widening of inferior alveolar canal.

RESULTS

The prevalence of hemangioma occurring on the tongue has been reported to be 1.2% in the population screened. Amongst the 12 subjects diagnosed with tongue hemangioma in 5 to 75 years and above, males and females were reported to be 10 (83.3%) and 2 (16.6%) respectively in the mean age of 60.2 years. History revealed by them justified presence of hemangioma since birth and increased progressively with age. It was deep red or bluish red in color and moderately firm to palpation. The lesion was blanching on applying pressure as shown in Figures 1. There were no visible pulsations neither was there any bruit felt. Diagnostic panoramic radiograph revealed no radiolucent area at the periapical region of premolar teeth or any widening of inferior alveolar canal.

Figures 1: Tongue hemangiomas with Diascopy test.



DISCUSSION

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.⁷ 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.³ Hemangiomas are histologically categorized into three types, namely capillary, cavernous, or mixed,¹¹ where about 80% occur as single lesions and 20% as bilateral lesions. The occurrence in male- to- female patient ratio is approximately 1;3.⁸ Hemangiomas are considered to be benign tumours of infancy (7%), affecting as many as 12% whites, but it rarely occurs in dark-skinned individuals. The incidence of intraoral capillary haemangiomas are extremely rare and it varies from 0.5-1.0% of all intraoral neoplasms, especially with female predilection (ratio of 3:1) in second and third decades of life.^{12,13} Our study reported a 1.2% prevalence of tongue hemangioma in the population screened with a male female ratio 5:1.

Clinically, hemangioma appears as painless soft mass, smooth or lobulated, and sessile or pedunculated and may vary in size from a few mms to several cms. The development of these lesions is usually slow and presents with deep red or bluish red in color and moderately firm to palpation. 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.³ The majority of haemangioma involve the head and neck. They are mostly found on the cheeks, upper lip, and eyelids, and rarely in the oral cavity, especially on the tongue. Nayouki Matsumoto et al., studied 31 cases of intra oral capillary haemangioma and found that most lesions were located on buccal mucosa (45.2%), followed by the tongue (35.5%), lip (9.7%), gingiva (6.5%), and palate (3.2%).^{13,14}

In addition, confusion with other conditions can occur since hemangiomas may mimic other lesions clinically, radiographically and at times histologically. The diagnosis of hemangioma is based on clinical history and physical examination. The diagnosis of OCH can be clinical; however, two physical examination maneuvers were demonstrated. Together, they provide important information and reinforce the clinical diagnosis: the diascopy and the HLMAC.¹⁵ Diascopy test had been confirmative for all the subjects.

Imaging studies may be necessary to clarify and confirm the diagnosis, and in order to analyze the extent of the lesions by permitting an evaluation of their non-visible component as well as the affection of neighboring structures. The imaging techniques employed for hemangiomas include MRI, CT, and CT with contrast media, ultrasonography and angiographic techniques (arteriography, phlebography). In our study Diagnostic panoramic radiograph revealed no radiolucent area at the periapical region of premolar teeth or any widening of inferior alveolar canal.

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 Syndrome¹⁶

The management of hemangiomas of the oral mucosa varies according to the age of the patient, the size of the lesion, the site of involvement and the clinical nature of the hemangioma. The range of treatment includes steroid therapy, carbon dioxide or argon laser therapy, sclerosing agents, surgical excision with or without ligation of vessels and embolization.¹⁶

Management of hemangioma depends on a variety of factors, and most true hemangioma requires no intervention. However, 10–20% requires treatment because of the size, exact location, stages of growth or regeneration, functional compromise, and behaviour. Many modes of therapy have been advised for hemangiomas, which include cautery, cryotherapy, radiotherapy, and sclerosing agents. Most these techniques cause unavoidable tissue damage and subsequent fibrosis. Each treatment modality has its own risk and benefits.³ In the present study, they were observed in asymptomatic subjects and hence, No treatment was advised. Still, Hemangioma of tongue needs special consideration due to susceptibility to trauma, bleeding and ulceration, it may also become a cause of difficulty in breathing and dysphagia.³

CONCLUSION

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. They are mostly found on the cheeks, upper lip, and eyelids, and rarely in the oral cavity, especially on the tongue. Here in this study, prevalence of hemangioma was observed to be 1.2% with a male female ratio 5:1. Further studies should be conducted to determine correlation with age sex and site of occurrence of hemangioma.

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