Clinical and Experimental Health Sciences

Capillary Hemangioma Oral Cavity: Report of Two Cases

Melisa Bozkurt[1], Hakan Yulek[1], Filiz Namdar Pekiner[2], Gaye Keser[2]

[1] Department of Oral Diagnosis and Maxillofacial Radiology, Institute of Health Sciences, Marmara University, Istanbul, Türkiye.
[2] Department of Oral Diagnosis and Maxillofacial Radiology, Faculty of Dentistry, Marmara University, Istanbul, Türkiye.

Correspondence Author: Gaye Keser
E-mail: gayekeser@hotmail.com
Received: 08.03.2022 **Accepted:** 28.06.2022

ABSTRACT

Capillary Haemangioma is a benign vascular tumor that is characterized by blood vessel growth and is usually known to be a developing hamartomatous disease of infancy and childhood. The current case report describes an exceptionally unusual atypical appearance of capillary haemangioma. These lesions confront the doctor with a diagnostic quandary and, if not appropriately controlled, can lead to significant problems.

Keywords: oral hemangioma, oral mucosa, gingiva

1. INTRODUCTION

The term hemangioma has been used to describe vascular abnormalities and proliferations (1). Hemangioma is a condition characterized by abnormal endothelial cell growth and an increase in the number of capillaries. The phrase vascular malformation, on the other hand, refers to a structural abnormality that is not caused by endothelial growth. As a result, vascular abnormalities are classified as either vascular tumors or vascular malformations. Hemangiomas of infancy, congenital hemangiomas, and pyogenic granuloma are examples of vascular tumors, whereas vascular malformations include capillary, venous, lymphatic, and arteriovenous malformations (2).

Although hemangioma is a common benign soft tissue tumor of head and neck, oral cavity lesions are relatively rare. Most common sites of hemangioma in oral cavity are lips, tongue, buccal mucosa and palate in oral cavity. Incidence is higher in females than males (3:1). Hemangioma can be observed congenitally or be seen in older individuals as well (3). Clinically, lesions are soft and generally painless. Also, swelling is not a rare finding. Mass can be described smooth or lobulated sessile or pedunculated with variable size (5).

Hemangiomas are classified on their histological appearance: capillary, cavernous or mixed hemangiomas, Capillary hemangioma is a type which is a unit of small thin-walled vessels of capillary size. Vessels are lined by a single layer of flattened or plump endothelial cells and surrounded by a discontinuous layer of pericytes and reticular fibres. Cavernous hemangiomas are deep, irregular, dermal blood-filled channels which is a unit of thin-walled cavernous vessels or sinusoids that separated by a scanty connective tissue stroma (1-3).

In addition capillary hemangiomas are caused by exuberant neovascular response to infection, local irritation or hormonal irregularity. Swelling might occurs in skin or mucosa to the accompaniment of ulceration and bleeding (5). Therefore, a careful imaging plan is necessary to evaluate the lesion, its neighbour tissues, possible complications. Vascular lesions are hard to operate due to the control of bleeding (6).

Various plans of treatment for hemangioma are popular. Excision, laser therapy, sclerotherapy, cryosurgery, electrodessiciation, embolization, curettage or ligation are individually or combine of these are treatment options (5,6). These reports aimed to represent two capillary hemangiomas, one of which has a unique location.

DOI: 10.33808/clinexphealthsci.1081687

2. CASE PRESENTATIONS

2.1. Case 1

In October 2021, a 19-years old Turkish female patient referred to the Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Marmara University with a swelling in edentulous alveolar ridge of left mandibular first molar. The patient has no systemic condition or regular usage of medicine. Also, the patient claimed that lesion begun to swell after the tooth extraction (left mandibular first molar, Figure 1). The patient declared that first small lesion spontaneously dropped. Then, according to the patient a new lesion started to grow up during one year. Panoramic radiograph did not reveal any bone involment (Figure 2).

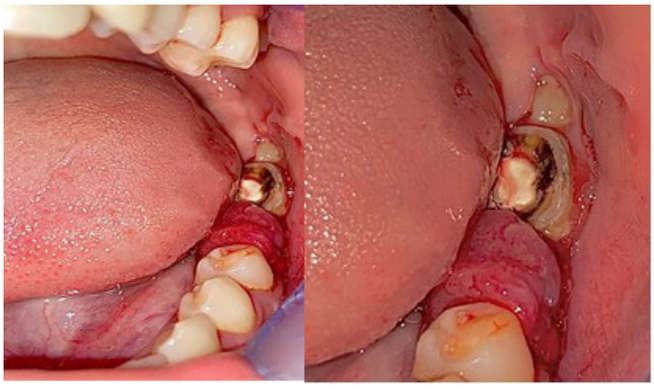

Figure 1. *Intraoral examination of spontaneously bleeding lesion which localized on the edentulous left mandibular fist molar's alveolar ridge. Ulceration and vascular lesion can be well observed.*

Figure 2. *Panoramic radiograph of the patient in case report 1.*

Extraoral examination including the lymph nodes was insignificant. Intraoral examination revealed a localized lesion which was pedicellated, spontaneously bleeding, hypertrophic and attached gingiva of deciduous mandibular first molar area, at the extraction zone. Lesion was a red mass, covering entire alveolar ridge buccolingually. Due to the clinical appearance and examination, provisional diagnose of pyogenic granuloma was establised.

An excisional biopsy was performed under local anesthesia. The biopsy tissue was sent for the histopathological examination at the Department of Oncologic Cytology and Tumor Pathology, Institute of Oncology, Istanbul University. Bleeding control was granted with pressure, coterization and suturation. The histopathologic features revealed nonceratinize stratified squamous epithelium of composed of many capillary vessels and red blood cells into some of well-shaped vessels (Figure 3a and 3b). Many small capillary vessels were evident. Vascularity was increased with numerous and various size of capillaries. Also, blood vessels and vasoformative tissue under the stratified squamous epithelium was revealed. Few areas of epithelium showed ulceration. The histopathological diagnosis was ulcerous capillary hemangioma. The operation site healed without any complication within 1 week (Figure 4). Five months of follow-up revealed no recurrence.

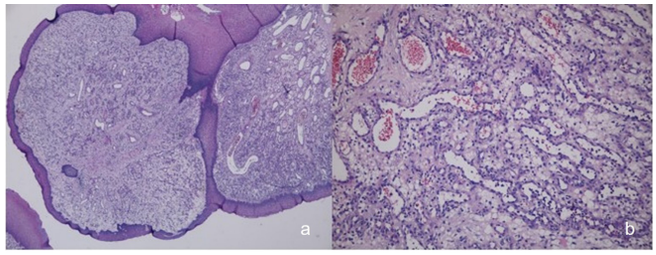

Figure 3a. *Various size of lumens which floored by endothelium under the stratified squamous epithelium (stain: H and E; magnification x40)* ***b.*** *Well shaped, multiple vascular sections. Red blood cells can be seen into some of the vessels (stain: H and E; magnification x200)*

Figure 4. *Healing 1 week after the surgery.*

2.2. Case 2

In December 2021, a 48-years old Turkish male patient referred to the Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Marmara University with a swelling on anterior palatine mucosa (Figure 5). The patient declared that swelling got larger in a short period of time (15 days). Panoramic and periapical radiography did not reveal any bone involvement (Figure 6). The patient was also suffering from spontaneous bleeding around the lesion. Extraoral examination including the lymph nodes was insignificant. Intraoral examination revealed a localized,

erythematous and hypertrophic lesion of palatinal mucosa, also partially ulcerations and irregular surface was observed. Poor oral hygiene was seen during intraoral examination. Periodontal pocket of 5 mm was measured during periodontal examination of tooth 22. Patient has been chewing with anterior dentition due to the bilaterally edentulous posterior maxilla and has not been using a partial prosthetics.

Figure 5. *Intraoral examination of the lesion which positioned in anterior of palatinal keratinized gingiva.*

Figure 6. *Panoramic and periapical radiographies of the patient in case 2.*

An excisional biopsy was performed and sent for the histopathological examination. The histopathologic features revealed stratified squamous epithelium. Many lumens with different diameters are observed in most areas. Serum or erythrocytes are observed in the lumens. The histopathological diagnosis for this present case was ulcerous capillary hemangioma. The operation site healed without any complication within 2 weeks. Four months of follow-up revealed no recurrence (Figure 7).

Figure 7. *Postoperative healing, 2 weeks after excisional biopsy.*

3. DISCUSSION

Hemangioma is a benign head and neck lesion that can develop during the neonatal period or occur congenitally (6). Oral hemangiomas account for 14.3% of all mouth benign vascular lesions, according to Correa et al. (7)'s prevalence study. Mumcu et al. (8), on the other hand, observed that the prevalence of oral hemangioma in Turkey is lower than in Germany. Previously, no race-related variations in the incidence of oral capillary hemangioma have been observed. (7-9).

Lobular capillary hemangiomas are rare benign lesions of the oral cavity (1,2). Oral capillary hemangioma lesions might involve the gingiva as though our cases, although the occurrence in the gingival mucosa is rare. The differential diagnosis of hemangiomas are pyogenic granuloma, inflammatory gingival hyperplasia, epulis granulomatosa and squamous cell carcinoma (6,7).

Clinical appearance and size can differ in individuals which brings differential diagnoses (8,9). One of the cases we represent here was reported at 19 years of age and the pre-diagnosis was pyogenic granuloma. The ulcerous view of our case represented was a distractive appearance on the path of diagnose and we considered pyogenic granuloma. Therefore, the biopsy was needed for definitive diagnosis. Similarly, a case report in literature described an exceptionally unusual aberrant appearance of capillary haemangioma on gingiva. In this case, the lesion was identified clinically as pyogenic granuloma but histopathologically as capillary haemangioma (10).

Vascular lesions should be pre-diagnosed with radiographic methods and clinical examination before a proper excision due to the high risk of complications. Ultrasonography is a popular method to examine the vascularity of the lesion. Understanding the vascularity of the lesion is important before the surgery to decrease the risk of complication. Therefore, the pre-diagnose and clinical examination matters for a proper pre-operative imaging. Neighbour tissues are highly important. Size of the lesion can be monstrous. Superficial growth of this benign lesion can breach into soft tissues in various degrees including lymph nodes. Large expansion or penetration of deep soft tissues is also a characteristic entity for cavernous hemangioma (3,9).

Management of bleeding and healing process is a challenge with vascular lesions. Postoperative ulceration is also a common complication (9,11-13). A clinical treatment protocol of da Silva et al. presented that sclerotherapy is a method which degrades the risk of superficial ulceration or scar (11-15). Spontaneous resolution of small lesions can also be seen in small hemangiomas of pediatric population, also Case 1 patient declared that the first small lesion resolved spontaneously (13-15).

4. CONCLUSION

Capillary haemangioma (CH) is a clinically similar condition to pyogenic granuloma that is distinguished by histological findings. Despite the fact that it is asymptomatic, its location and size may necessitate prompt and meticulous management. It frequently provides the clinician with a diagnostic challenge. This demands biopsy of such lesions in order to establish a definitive diagnosis and to ensure correct care and avoidance of consequences. Above all, the surgical excision of CH should be done with care, taking into account intraoperative and postoperative hemorrhage. CH is linked to a higher incidence of postoperative recurrence, necessitating a longer site follow-up.

REFERENCES

[1] Regezi JA, Sciubba JJ, Jordan RC. Oral Pathology Clinical Pathologic Correlations. 5th ed. Missouri: Saunders Elsevier; 2008.

[2] Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and Maxillofacial Pathology.3rd ed. Missouri: Elsevier; 2009.

[3] Dilsiz A, Aydin T, Gursan N. Capillary hemangioma as a rare benign tumor of the oral cavity: a case report. Cases J 2009; 2:8622 DOI: 10.1186/1757-1626-0002.000.0008622

[4] Satish V, Bhat M, Maganur PC, Shah P, Biradar V. Capillary hemangioma in maxillary anterior region: a case report. Int J Clin Pediatr Dent. 2014:144-147. DOI: 10.5005/jp-journals-10005-1253

[5] Van Doorne L, De Maeseneer M, Stricker C, Vanrensbergen R, Stricker M. Diagnosis and treatment of vascular lesions of the lip. Br J Oral Maxillofac Surg. 2002, 40:497-503. DOI: 10.1016/S0266-4356(02)00153-5

[6] Ujala UA, Diwakar NR. A very rare case of bilateral capillary hemangioma of lower lip and face: A case report. Indian J Dent Res. 2021; 32:131-133. DOI:10.4103/ijdr.IJDR_574_18

[7] Corrêa PH, Nunes LC, Johann AC, Aguiar MC, Gomez RS, Mesquita RA. Prevalence of oral hemangioma, vascular malformation and varix in a Brazilian population. Braz Oral Res. 2007; 21:40-45. DOI: 10.1590/s1806.832.4200700.010.0007

[8] Mumcu G, Cimilli H, Sur H, Hayran O, Atalay T. Prevalence and distribution of oral lesions: a cross-sectional study in Turkey. Oral Dis. 2005; 11:81-87. DOI: 10.1111/j.1601-0825.2004.01062.x

[9] Donnelly LF, Adams DM, Bisset GS. Vascular malformations and hemangiomas: a practical approach in a multidisciplinary clinic. AJR Am J Roentgenol 2000; 174:597-608. DOI: 10.2214/ajr.174.3.1740597

[10] Kumari VR, Vallabhan CG, Geetha S, Nair MS, Jacob TV. Atypical Presentation of Capillary Hemangioma in Oral Cavity – A Case Report. J Clin Diagn Res. 2015;9:ZD26-ZD28. DOI: 10.7860/JCDR/2015/14276.6691

[11] da Silva WB, Ribeiro AL, de Menezes SA, de Jesus Viana Pinheiro J, de Melo Alves-Junior S. Oral capillary hemangioma: a clinical protocol of diagnosis and treatment in adults. Oral Maxillofac Surg. 2014; 18:431-437. DOI: 10.1007/s10006.013.0436-z

[12] Thompson LD. Lobular capillary hemangioma (pyogenic granuloma) of the oral cavity. Ear Nose Throat J. 2017; 96:240. DOI: 10.1177/014.556.131709600716

[13] Chan C, Iv M, Fischbein N, Dahmoush H. Lobular capillary hemangioma of the mandible: A case report. Clin Imaging. 2018; 50:246-249. DOI: 10.1016/j.clinimag.2018.04.012

[14] Bajpai M, Pardhe N, Kumar M. Capillary haemangioma of lower lip in an african patient. J Ayub Med Coll Abbottabad. 2017; 29:706.

[15] Silverman RA. Hemangiomas and vascular malformations. Pediatr Clin North Am. 1991;38:811-834. DOI: 10.1016/s0031-3955(16)38155-x

How to cite this article: Bozkurt M, Yulek H, Namdar Pekiner F, Keser G. Capillary Hemangioma Oral Cavity: Report of Two Cases. Clin Exp Health Sci 2023; 13: 902-905. DOI: 10.33808/clinexphealthsci.1081687