

Lipoma or hemangioma: A diagnostic dilemma?

K. VINAY KUMAR REDDY, SHAMEENA ROOHI, KOTYA NAIK MALOTH, K. SUNITHA, VENKATA SATYA RAMESH THUMMALA

Abstract

Lipomas and hemangiomas are well-known benign lesions of the body. However, their occurrence in the oral cavity is rare. Lipoma accounts for 1-4% of benign neoplasms of mouth affecting predominantly the buccal mucosa, floor of mouth and tongue. Hemangiomas occur mostly on the lips, buccal mucosa, tongue, and palate. Lipomas when superficially placed show yellowish surface discoloration and hemangiomas usually have reddish blue to deep blue color. Here, we report an unusual case of benign tumor occurring in the buccal vestibule.

Keywords: Lipoma, mucocele, sclerotic capillary hemangioma

Introduction

Lipomas are the most common soft tissue mesenchymal neoplasms; it involves 15-20% in the head and neck region and 1-4% in the oral cavity. Lipomas commonly present as slowly enlarging asymptomatic lesions, with a soft, and smooth-surface when it is superficial with a yellow coloration. It may be pedunculated or sessile and occasional show surface bosselation.^[1] They most commonly occur in the areas of fat accumulation, especially the cheek, followed by the tongue, floor of the mouth, buccal sulcus and vestibule, lip, palate, and gingiva.^[2] Its exact etiology is unknown, possible causes may include trauma, infection, chronic irritation and hormone alterations and 12q, 13q, 6p chromosomes alterations.^[1] Hemangiomas are benign tumors composed of blood vessels. They may present either at birth or may arise during early childhood. 60% of the hemangiomas most commonly occur in the head and neck region.^[3] Its occurrence in the oral cavity is less, but if affected gingiva followed by lip, tongue, and palate are chiefly involved.^[4]


Department of Oral Medicine and Radiology, Mamata Dental College and Hospital, Khammam, Telangana state, India

Correspondence: Dr. Kotya Naik Maloth,
Department of Oral Medicine and Radiology, Mamata Dental College and Hospital, Khammam - 507 002, Telangana, India.
E-mail: dr.kotyanaik.maloth@gmail.com

Case Report

A 13-year-old boy reported to the Department of Oral Medicine and Radiology, with a chief complaint of swelling in his right lower buccal vestibule since 2 years, the swelling was initially smaller in size, when noticed by the parents, which gradually progressed to the present size and not associated with any pain or any functional impairment. On intraoral examination, a solitary, sessile, dome-shaped normal mucosal colored swelling was present in the right lower buccal vestibule, measuring approximately 3 cm × 2 cm in diameter, extending antero-posteriorly from mesial aspect of 44 to the distal aspect of 46, mediolaterally from the attached gingiva of 44, 45, 46 to till 0.5 cm away from lower buccal vestibule and superio-inferiorly 1 cm above the occlusal level of 44, 45, 46 to till the lower buccal vestibule with well-defined borders [Figure 1]. On Palpation, swelling was measuring about 3.5 cm × 2.5 cm in diameter with smooth surface, normothermic, nontender, soft in consistency with few palpable masses, mobile, compressible, nonreducible, fluctuant with no palpable pulsations. Intraoral hard tissue examination showed retained deciduous 55 and yellowish white flecks on all the teeth. Diascopy was performed which was negative. Panoramic radiograph was noncontributory [Figure 2]. Based on clinical signs and symptoms, a provisional diagnosis of lipoma was established with a differential diagnosis of hemangioma and mucocele.

Hemogram of the patient was within normal limits. Further investigations such as ultrasonography (USG) with Doppler and magnetic resonance imaging (MRI) were done, which were noncontributory. USG revealed 2.6 cm × 0.9 cm mass in the right buccal mucosa, which is predominantly hypo-echogenic with no evidence of internal vascularity [Figure 3]. MRI study of head and neck showed hypointense area on the right side of the mandible measuring about 26 mm × 9 mm × 10 mm [Figure 4]. The lesion was excised [Figure 5] under local anesthesia with all necessary emergency equipment and excised specimen was sent for

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histopathological examination [Figure 6] which revealed overlying epithelium and connective tissue with numerous blood vessels of varying sizes and shapes intermingled with proliferating blood capillaries embedded in fibrous connective tissue. The blood vessels are lined by plump endothelial cells and are engorged by RBC's dense collagen fibers lined by spindle-shaped fibroblasts and fibrocytes are seen, which confirmed the diagnosis of sclerotic capillary

hemangioma. The patient was under follow-up since 6-months with a good prognosis [Figure 7].

Discussion

Hemangiomas are considered to be benign tumors of



Figure 1: Swelling in the right buccal vestibule



Figure 2: Panoramic radiograph revealed no loss of bone in relation to the lesion



Figure 3: Ultrasonography showing hypoechoic areas

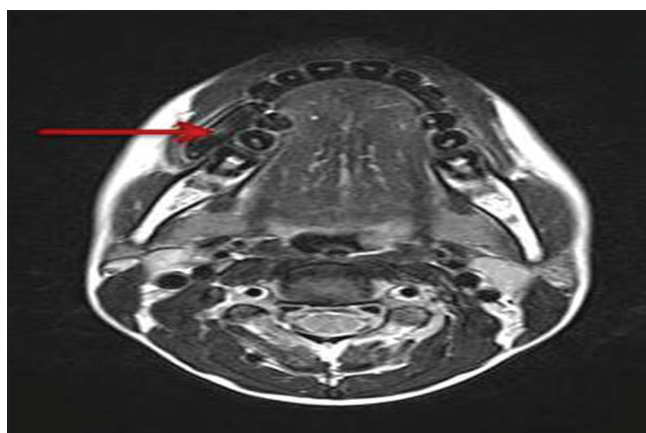


Figure 4: Magnetic resonance imaging showing hypointense area on the right side of mandible

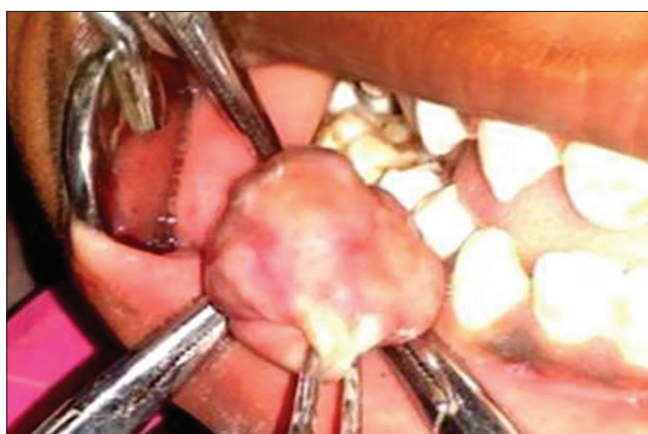


Figure 5: Intraoperative photograph

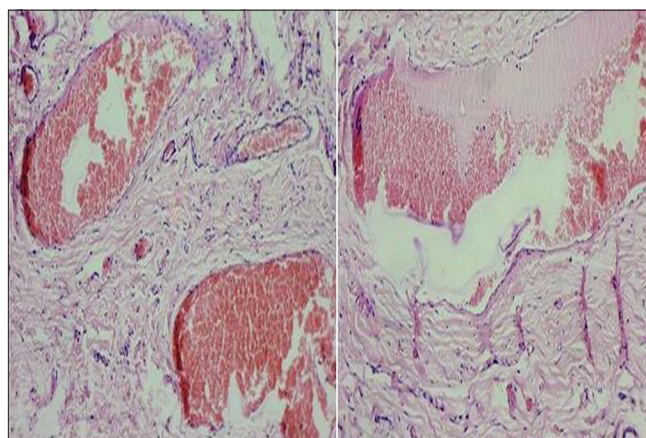


Figure 6: Histopathological photomicrograph, ×10 and ×40



Figure 7: Postoperative photograph (after 6-months)

infancy that are characterized by a rapid growth phase with endothelial cell proliferation followed by gradual involution.^[3] Hemangiomas follow a predictable course with three distinct developmental phases: Proliferation, quiescence, and final unique phase of involution. Historical reports suggest that involution of 50%, 70%, and 90% of the hemangioma occurs by 5, 7, and 9 years of age with some variability.^[5] They are classified on the basis of their histological appearance as capillary, mixed cavernous, or a sclerosing variety that tends to undergo fibrosis.^[6] Capillary hemangiomas may be sessile or pedunculated, soft, painless, and may be smooth or irregularly bulbous in outline.^[7] Its color varies from reddish blue to deep blue depending on the depth of vascular proliferation within the oral submucosa. They blanch upon application of pressure; conversely, when intraluminal clots form they become palpable and the lesion will usually not blanch^[8] as in the present case.

The exact etiology of vascular lesions is not known but according to few authors, angiogenesis plays a vital role in the pathogenesis of vascular lesions. Cytokines like basic fibroblast growth factor and vascular endothelial growth factor induce the process of angiogenesis and the factors which conquer angiogenesis (Gamma interferon, tumor necrosis factor beta, transforming factor-beta).^[4] 60% of the hemangiomas occurs in the head and neck region^[3] and its occurrence in the oral cavity is less, but if affected gingiva followed by lip, tongue, and palate are chiefly involved. But in our case, buccal vestibule was involved which was a rare site.^[4] Hemangiomas occur in the skin of 4-10% of Caucasian newborn and much more common in females than males at a ratio 3:1. They show lower incidence in dark-skinned infants,^[9] but in our case, the patient was male.^[4]

According to Krishna Kripal *et al.*, Nadeem Jeddy *et al.*, Alparslan Dilsiz *et al.*, clinically, the hemangiomas were soft, sessile or pedunculated, smooth or lobulated, painless, purple or deep dark blue in color with size varying from small to a larger lesion. The findings in our case were similar to the

finding noted by above authors except for the color, which was of normal mucosal color.^[4]

Clinically and histopathologically, hemangiomas can mimic many other soft tissue tumors like the vascular malformations, pyogenic granuloma, epulis, varicosities, oral squamous cell carcinoma, Kaposi sarcomas. The differential diagnosis has a vital role to play in these lesions as it can dictate the treatment option and the outcome of the disease.^[4] Hemangioma classification is based on histological appearance, therefore, histopathological assessment remains the most accurate and satisfactory means of diagnosis.^[10] Hemangiomas are histologically classified as capillary, cavernous, mixed and sclerosing type^[6,11] our case is of sclerotic capillary hemangioma. Depending upon anatomic location and clinical manifestation, the treatment of hemangiomas varies. Surgical excision is the treatment of choice and for those lesions which are not amenable to surgery, other treatment modalities such as sclerotherapy, cryosurgery, laser therapy, electrocoagulation, and radiation may be utilized.^[12]

Conclusion

Sclerotic capillary hemangioma being a very rare lesion, it should be included in the differential diagnosis of benign mucosal lesions with normal mucosal color, which do not blanch on pressure. When a clinician is in a dilemma, not cognizant with the possibility of this lesion in its unusual site, can be solved by histopathological assessment which remains the most accurate and satisfactory.

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