

Capillary Hemangioma Mimicking Pyogenic Granuloma: A Case Report

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Abstract:

Oral hemangiomas and pyogenic granulomas are well-known benign soft tissue lesions. Pyogenic granuloma occurs most commonly in females on the gingiva and capillary hemangioma on lips, cheek, gingiva, tongue and buccal mucosa. It makes clinical diagnosis quite challenging because, as they mimic more severe lesions such as malignancies. The purpose of this article is to report a case of soft tissue exophytic mass present on the gingiva which was clinically diagnosed as pyogenic granuloma and histopathologically as capillary hemangioma.

Keywords: Pyogenic granuloma, Capillary hemangioma, Oral mucosa.

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INTRODUCTION

Capillary haemangioma and pyogenic granuloma are well known and commonly occurring benign vascular malformations of the oral cavity exhibiting varied age from infants to late adulthood. Pyogenic granuloma occurs generally on the gingiva, whereas capillary haemangioma preferred sites are lips and tongue. Both lesions are very rarely seen on the palatal region¹. Pyogenic granuloma is a relatively common, soft tissue tumour of the oral cavity that is believed to be reactive and non neoplastic in nature. The name pyogenic granuloma is a misnomer since the condition is not associated with pus and does not represent a granuloma histologically.²

Haemangioma are the benign tumours composed of blood vessels and are classified on the basis of their histological appearance as capillary, mixed cavernous or a sclerosing variety that tends to undergo fibrosis³. Haemangioma show characteristic feature of rapid endothelial cell proliferation, followed by involution over time. The proliferating mass of vessels does not undergo malignant transformation. The lesion not only develops in children, but elder individuals may also be affected occasionally⁴. Both these lesions have higher incidence in female patients occur in the young age

group and histopathologically resemble each other⁵. Therefore, the differentiation between a pyogenic granuloma and capillary haemangioma is difficult. This article reports an unusual presentation of capillary haemangioma of gingiva in male patient.

CASE REPORT

A 28-year-old male patient reported to the Department of Oral Pathology and Microbiology with a chief complaint of growth in the gingival region for the past two months. The growth was asymptomatic. The patient chews tobacco for the past 4-5 years with a frequency of about 10-12 times a day, placing at a lower anterior teeth region. His medical history was non-contributory. Extra oral findings were not significant. Intraoral examination revealed a single reddish-pink growth seen on the gingiva in the lower anterior teeth region from mesial aspect of 33 to distal portion of 34 (Figure 1) which was approximately 1×1 cm in size. The growth had a smooth but slightly lobulated surface with distinct borders. The swelling was reddish pink in color with normal surrounding area. On palpation the swelling was soft to firm in consistency, non mobile, non tender and pedunculated. Depending on the clinical

features, provisional diagnosis of pyogenic granuloma was given.

The hemogram of the patient was well within normal limits. An excisional biopsy was performed under local anaesthesia and excised growth was sent for histopathological examination. On macroscopic examination, lesion appeared to be pinkish-red. (Figure 2)

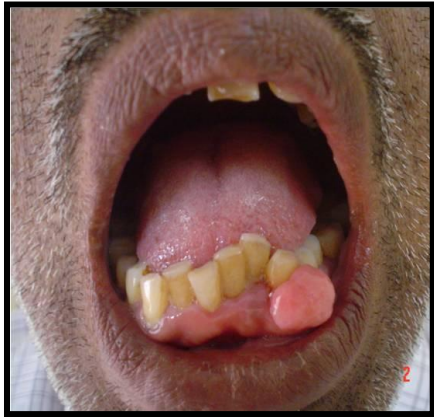


Figure 1 : Intraoral view of patient



Figure 2 : Excised specimen

Microscopic examination shows stratified squamous epithelium and underlying highly cellular connective tissue Stroma. Stroma revealed marked endothelial cell proliferation with well-formed capillaries in a prominent lobular arrangement. Proliferation of plump endothelial cells was also noted. Stroma was dense fibrous in nature with the presence of few chronic inflammatory cells. The histopathologic

report was suggestive of capillary haemangioma (Figure 3, 4).

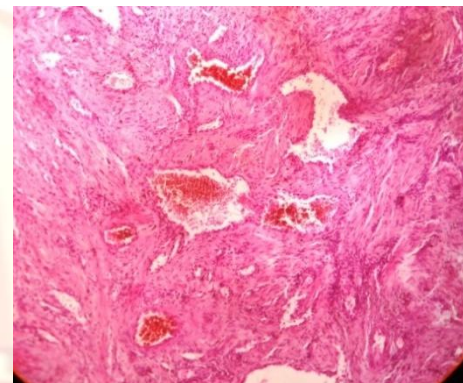
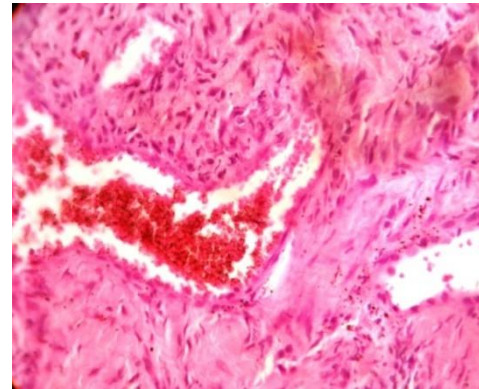


Figure 3 and 4: Photomicrograph showing numerous dilated blood capillaries lined by endothelial cells. (hematoxylin and eosin stain, original magnification $\times 10$ and $\times 40$)

DISCUSSION:

Haemangioma are delineated as vasoformative tumours. It is considered to be one of the most common soft tissue tumours of the head and neck region ⁶. Haemangioma are about three times more common in females than in males. The first recognized case of haemangioma was described by Liston way back in 1843 ⁷. Gingival tissues are rare sites of occurrence for haemangioma, whereas pyogenic granuloma preferred site is gingiva. Clinical presentation of capillary haemangioma is occasional pain, bleeding, pulsation, parasthesis, blanching of tissues, bone deformity, and mobility of the affected tooth.

Intramuscular haemangioma in the oral region are most commonly seen in the masseter, comprising 5% of all intramuscular haemangioma⁸. Haemangioma may mimic other lesions clinically, radio graphically and histopathologically. The differential diagnosis of haemangioma includes vascular malformations, pyogenic granuloma, peripheral giant cell granuloma, peripheral ossifying fibroma, irritational fibroma, epulis, and sometimes squamous cell carcinoma.

Vascular malformations are present at birth, while haemangioma develop later in life⁹. Distinctive feature of vascular malformations is proportionate growth throughout the life of an individual [6]. They may classified depending on the vessel type involved or flow types: arterial and arteriovenous (high flow), capillary or venous (low flow)¹⁰.

The most common vascular proliferation of the oral mucosa is the pyogenic granuloma. It is a reactive lesion that develops rapidly, bleeds profusely and is frequently related with inflammation and ulceration. Clinically it is often red, lobulated, and pedunculated and it may be hormone sensitive. Sturge-Weber syndrome that may cause similar vascular lesions in oral cavity and face creates a diagnostic dilemma of haemangioma [11]. Based on histological features pyogenic granuloma is of 2 types, lobular capillary haemangioma (LCH) type and non-lobular capillary haemangioma (non-LCH) type. LCH pyogenic granuloma is identified by proliferating blood vessels that are structured in lobular aggregates. Superficially the lesion shows no specific change of oedema, capillary dilation or inflammatory granulation tissue reaction. The non-LCH pyogenic granuloma shows vascular proliferation that resembles granulation tissue. Histopathological examination exhibits a progression from a densely cellular proliferation of endothelial cells in the early stages to a lobular mass of well formed capillaries in the mature phase, often resembling the pyogenic granuloma without the inflammatory features [3]. The present case has clinical features of a pyogenic granuloma, but has not microscopic features of pyogenic granuloma. Therefore, biopsy of tissue specimen is often necessary for definitive diagnosis of haemangioma.

The treatment of haemangioma of the oral mucosa varies according to the patient, the size of the lesion and the site of involvement. Angiographic studies are not strictly demonstrated for diagnosis of haemangioma and are utilized only to define the size and extent of lesion. Diascopy is the technique of applying pressure to a suspected vascular lesion to visualize the evacuation of coloration and may facilitate the differentiation of small vascular lesion from a pigmented lesion. Computed tomography (CT) and magnetic resonance imaging (MRI) are also helpful imaging techniques and have been successfully utilized for the diagnosis of haemangioma¹¹.

Radiographs are one of the essential diagnostic tools for pyogenic granuloma as they can rule out the presence of any malignancy, foreign body, and bony destructions¹². Treatment modalities for haemangioma include surgical intervention in the majority of cases, but other options can be cryosurgery, curettage, and embolization¹³.

CONCLUSION:

Capillary haemangioma are vascular lesions resembling pyogenic granuloma which can be distinguished on the basis of histopathological findings. It presents itself as a diagnostic difficulty for the dentists. In this case, the clinical picture and location of the lesion led to a provisional diagnosis of pyogenic granuloma, but histological findings were suggestive of capillary haemangioma. Early detection and biopsy should be mandatory for these lesions for proper management and to avoid further complications. Dental surgeons should, therefore, make an accurate diagnosis for the execution of appropriate treatment planning. Nowadays, plastic surgeons also have a role to play in treatment modality for such lesions to improve their aesthetics.

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