

# **Intraoral Capillary hemangioma: an atypical clinical presentation**

## **Abstract:**

Hemangioma is a relatively common benign proliferation of vascular tissue that primarily develops during childhood and is characterized by a rapid endothelial cell proliferation, followed by gradual involution. Hemangiomas are common benign vascular tumors of the head and neck region which account for 7% of all benign tumors of infancy and childhood. Capillary Haemangioma is a benign vascular tumour characterized by proliferation of blood vessels that are primarily reported to be a developmental hamartomatous lesion of infancy and childhood. Incidence of intraoral capillary hemangioma in adults is infrequent, and its occurrence on the labial mucosa is extremely rare. This case report is an atypical presentation of capillary haemangioma on labial mucosa in 40 years old male.

Keywords: capillary hemangioma, vascular tumors, hamartomatous lesion, labial mucosa

## **Introduction:**

The word hemangioma comes from Greek word, hema - 'blood', angio - 'vessel', oma- 'tumor'<sup>[1]</sup>. Hemangioma is a relatively common benign vascular tumor of the head and neck region which account for 7% of all benign tumors of infancy and childhood <sup>[2]</sup>. Adults are rarely affected. Two main forms of hemangioma are recognized: capillary and cavernous. The capillary form presents as a flat area consisting of numerous small capillaries. Cavernous hemangioma appears as an elevated lesion of a deep red colour, and consists of large dilated sinuses filled with blood <sup>[3]</sup>. The occurrence of intraoral capillary haemangioma is very rare<sup>[4]</sup>. It varies from 0.5-1.0% of all intraoral benign tumors<sup>[5]</sup> Intra oral capillary haemangioma are mostly present on buccal mucosa (45.2%), followed by the tongue (35.5%), lip (9.7%), gingiva (6.5%), and palate (3.2%). The present case needs attention because of its uncommon location on the labial mucosa and occurrence in a middle-aged patient.

## **Case report:**

A 40-years old male patient reported with a chief complaint of growth on the lower lip since 4 months. The growth was painless and small in size initially, which gradually enlarged to the present size. The patient gave a history of frequent bleeding and discomfort during mastication of food. Past medical and dental histories were insignificant. Extraoral examination revealed slight swelling on the right lower lip region. Intraoral examination ( Fig 1) revealed a solitary well-defined lobular, roughly oval-shaped growth of size approximately 5.5 × 4 cm on the right lower lip region. The lesion was pedunculated. The mucosa over the growth was reddish pink in colour. The growth was nontender, non-reducible, noncompressible and soft to firm in consistency. A provisional diagnosis of pyogenic granuloma was given. The differential diagnosis was given as Irritational fibroma, peripheral giant cell granuloma. Patient was advised for haematological investigations and all parameters were within normal range, hence excisional biopsy was done under local anaesthesia. After complete haemostasis, the specimen was sent for histopathological evaluation.(Fig2) Patient was prescribed antibiotics and anti-inflammatory drugs and recalled after one week for suture removal. There was uneventful healing of the lesion. (Fig 3). The patient was further advised for oral prophylaxis.

### **Histopathological features:**

There was parakeratinized stratified squamous epithelium with underlying connective tissue showing many thin-walled capillary channels in mature fibrous stroma. The capillaries were lined by a single layer of endothelial cells. Mild chronic inflammatory cells infiltration was also seen along with scattered plasma cells.(Fig4,5)

Correlating the clinical, physical and histopathological evaluation, the patient was diagnosed as having Capillary hemangioma.

### **Discussion:**

Hemangiomas are commonly benign proliferative lesion of vascular tissue origin. They generally occur as benign tumors of infancy which is characterized by a rapid growth phase with endothelial cell proliferation, followed by gradual involution with increasing age.<sup>[6]</sup> Although hemangioma is one of the most common soft tissue tumors of the head and neck region, it rarely occurs in the oral cavity.<sup>[3]</sup>

Haemangiomas are benign vascular tumours, classified histologically into capillary and cavernous, mixed, and sclerosing variety<sup>[7]</sup>. Hemangiomas may mimic other lesions clinically and histopathologically leading to diagnostic dilemma. The differential diagnosis of hemangiomas includes pyogenic granuloma, peripheral giant cell granuloma, chronic inflammatory gingival hyperplasia (epulis), epulis granulomatosa, and squamous cell carcinoma.<sup>[8]</sup> The pathogenesis of hemangioma is still not understood<sup>[9]</sup>. The pathogenesis of hemangiomas still remains unclear. The first theory suggests that, the endothelial cells of haemangiomas arise from disrupted placental tissue embedded in the foetal soft tissues during gestation or birth. Markers of haemangiomas have been shown to coincide with those found in placental tissue. The second theory arose from the discovery of endothelial progenitor and stem cells in the circulation of patients with haemangioma. The development of haemangioma in animals from stem cells isolated from human specimens support this theory.<sup>[10]</sup> Also, abnormal levels of matrix metalloproteinases (MMP-9) and proangiogenic factors like vascular endothelial growth factor (VEGF) and basic fibroblast growth factor (b-FGF) plays a vital role in haemangioma pathogenesis.<sup>[11]</sup> The treatment of hemangiomas of the oral mucosa depends upon various factors such as the age of the patient, the size and extent of the lesion, the site of involvement, and the clinical features of the lesion. The most common treatment modality of hemangioma is surgical excision of the lesion, with or without ligation of blood vessels. Surgical management of the hemangioma should be done with utmost care because of the possibility of the bleeding intraoperatively and postoperatively. Recently developed treatment modalities include steroid therapy, electrosurgery, Nd:YAG laser, CO2 laser, cryosurgery, and sclerotherapy.<sup>[7]</sup>

### **CONCLUSION**

Capillary haemangioma is a lesion that clinically resembles pyogenic granuloma which is identified based on its histological findings. Even though it is asymptomatic, its site and size may require immediate careful intervention. It often presents as a diagnostic dilemma to the clinician. This necessitates biopsy of such lesions for establishing a definite diagnosis and proper management and prevention of various complications. Most importantly, the surgical excision of CH should be performed with caution taking into consideration the intra-operative

and postoperative bleeding. CH is associated with increased risk of postoperative recurrence that necessitates longer follow up of the site.

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Figure I



Figure II



Figure III

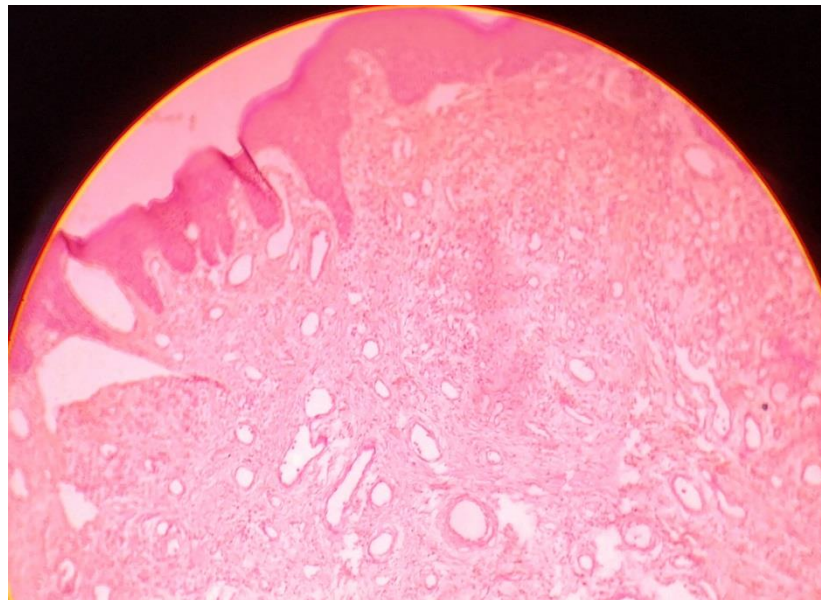


Figure IV

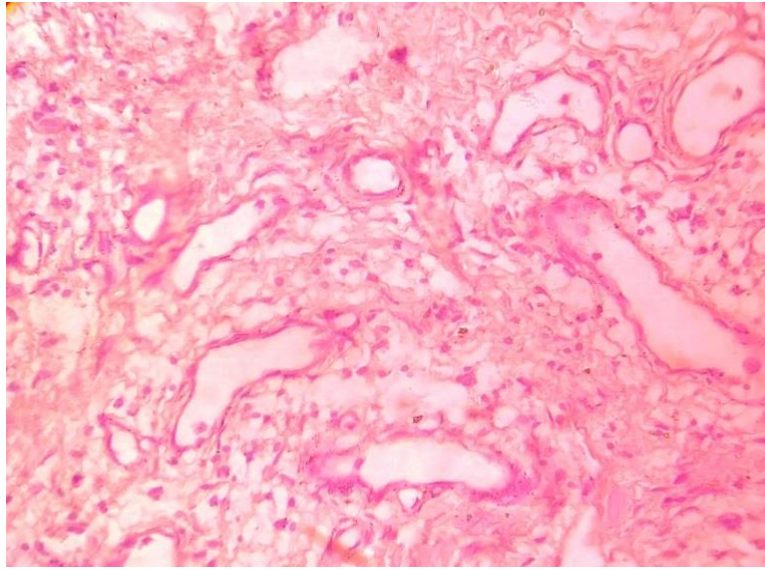


Figure V

Figure I: Preoperative clinical picture of the growth on the lower labial mucosa

Figure II: Excised specimen of 5.0 x 4.0 cm size

Figure III: Postoperative clinical picture of the site

Figure IV: Photomicrograph showing parakeratinized stratified squamous epithelium with underlying connective tissue showing many thin-walled capillary channels in mature fibrous stroma (haematoxylin and eosin stain, original magnification  $\times 40$ )

Figure V: Photomicrograph showing chronic inflammatory cells infiltration (haematoxylin and eosin stain, original magnification  $\times 400$ )