**Oral capillary hemangioma in a ten year old female child with hepatitis B treated with monopolar electrocautery**

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**ABSTRACT**

Capillary hemangioma is a benign, vascular tumor characterized by proliferation of blood vessels that are primarily reported to be a developmental hamartomatous lesion of infancy and childhood. Till date, many cases of capillary hemangiomas have been reported in the literature, but juvenile hemangiomas with other systemic manifestations such as hepatitis B have not been studied well so far. The present paper reports a rare case of capillary hemangioma in a ten-year-old female with hepatitis B, which was treated under general anesthesia using electrocautery and followed up for one year and no recurrence was found.

**Keywords:** Capillary hemangioma, excision, hepatitis B, histopathology, pediatric hemangiomas, vascular tumors

**Introduction**

Pediatric oral hemangiomas are benign vascular tumors seen from birth, particularly in females.¹ The American Academy of Pediatric Dentistry has described numerous lesions, masses, and tumor-like conditions of soft and hard tissues, belonging to the oral and maxillofacial regions of children and adolescents.² Capillary hemangiomas account for 8%–10% of benign pediatric tumors.

This paper presents about successful surgical excision of oral capillary hemangioma carried out in a ten-year-old female with hepatitis B under general anesthesia in our institution, which was followed up for one year.

**Case Report**

A ten-year-old female patient reported to the Department of Pedodontics and Preventive Dentistry, with a chief complaint of presence of a reddish lesion inside the lower jaw on the right lower front tooth for six months duration. Upon eliciting the history, the parent reported that the lesion had begun as a tiny red spot in the same location and had attained the present size over a period of time. The lesion was painless and bled even on slight provocation. Patient’s father also gave a medical history of blood transfusion a year ago for low hemoglobin count.

Intraoral examination revealed a reddish, soft, lobulated mass in the region of lingual aspect of 41, 42, and 83, measuring 3.5*1.5 cm, which extended from the incisal tip of the above mentioned teeth to the floor of the mouth [Figure 1]. The lesion was soft in consistency, non-tender with pedunculated base, and bleeding on slight palpation.

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The lesion was provisionally diagnosed as oral capillary hemangioma. The patient was then referred for a complete blood count along with screening for human immunodeficiency virus (HIV) and hepatitis B virus (HBV) as the patient was having an exophytic lesion and also due to the history of having low hemoglobin count a year ago.

### Blood investigations

The blood report showed a critically low hemoglobin count as 5.9 gm% and being HBsAg positive. The patient was further advised for an advanced test, electrochemiluminescence immunoassay analyzer (ECLI), and the report stated that the patient was having a highly reactive hepatitis B ‘e’ antigen (HBeAg) present in the blood stream.

### Lesion/tumor investigations

The contrast enhanced computed tomography (CECT) report stated the lesion as an enhancing soft tissue lesion arising from the alveolar mucosa posterior to lower right incisors, canine in right para‑median region and no bony erosion was noted.

As the hemoglobin level was less (5.9 gm%), the patient was referred for the treatment of the same and after three weeks, her hemoglobin count was elevated to 13.3 gm%. Furthermore, the patient was posted for surgery under general anesthesia.

As the patient was hepatitis B positive, the surgery was carried under universal precautions for infectious disease. Monopolar electrocautery was used for the excision and hemostatic agent (gelfoam) was kept ready as it was a vascular lesion and bleeding was expected. The lesion was excised completely from the base [Figure 2] and no suturing was done. After 24 hours, surgical site showed signs of healing [Figure 3]. The patient was instructed to avoid touching the surgical site, vigorous gargling and brushing and intake of hot food or beverages. The excised lesion was stored in 10% neutral buffered formalin solution [Figure 4], and was sent for histopathological investigation.

### Histological report

The report showed numerous vascular spaces of varying sizes lined by endothelial cells supported by connective tissue stroma comprising of proliferating endothelial cells, few mast cells, and dilated capillaries engorged with RBCs. The overlying epithelium was keratinized stratified squamous with areas of ulceration. The underlying fibro cellular connective tissue comprised of collagen fibrils and scanty inflammatory cell infiltrate [Figure 5a–d]. The final diagnosis was oral capillary hemangioma.

The patient was followed up at six- [Figure 6] and twelve-month intervals [Figure 7] and there were no signs of recurrence of the lesion.

### Discussion

Oral hemangiomas (OHs) are benign tumors that develop due to endothelial cell proliferation, and occur in and around the oral cavity. It is uncommonly encountered by dental professionals due to painless occurrence. Hemangiomas may be slowly progressive, involving extensive portions of the superficial and deep blood vessels. It is reported that child bearing age,
gestational hypertension, and infant birth weight may be related to the formation of hemangioma.[9]

The treatment of capillary hemangiomas varies considerably depending on the clinical features and the anatomic considerations. Surgical excision is generally the treatment of choice.[6] Electrosurgery procedure facilitates the passage of high frequency, oscillating electric currents through tissue between two electrodes to fulgurate, desiccate or cut tissue. Heat is produced when the current is concentrated and the amount of heat produced determines the tissue response.[7] The electrocautery procedure offers a bloodless field during the surgical procedure and close approximation of cut ends.[8]

Hepatitis can be transmitted by skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during dental procedures. Thus, proper preventive measures must be adopted with strict protocol to prevent the transmission of the virus.[9] No dental treatment other than urgent care should be rendered because the individuals still carry the virus up to three months after the symptoms have disappeared.[9] In the present case, since the lesion bleeds on slight provocation, such as on having food, it was treated immediately due to patient discomfort.

**Clinical significance**

This tumor mimics other oral tumors like pyogenic granuloma, squamous cell carcinoma, etc., Thus, definite diagnostic criteria are very important for the dental surgeon, and surgical pre-preparation to control bleeding is very important because this lesion bleeds severely during surgical procedure. Long-term follow up is necessary.

**Key points**

- Hemangiomas are slowly progressive, involving extensive portions of the superficial and deep blood vessels, which may contribute to its profuse bleeding on manipulation.
- As a part of clinical practice, primary care physicians and pediatric dentists should be familiar with those unusual, oral tumor–like vascular entities.
Conclusion

Despite their benign origin and behavior, hemangiomas in the region of oral cavity are always of high clinical importance to the dental profession and also primary care physicians, and require appropriate clinical management.

Declaration of the patient’s/child patient’s parents consent

The authors certify that they have obtained all the appropriate consent to publish the images and clinical information. The patient’s age is between 7 (84 months and above) to 12 years of age, so oral assent has been obtained in the presence of parent for publication of images and clinical information in the journal. After verbal assent of the child, the parent’s counter-signature has been obtained to certify that the child’s verbal assent has been taken. It’s been informed to the child patient and her parents that the names and initials will not be published and due efforts will be made to conceal their identities, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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