

# LOBULAR CAPILLARY HEMANGIOMA IN AN 12 YEAR OLD GIRL – A CASE REPORT

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## Abstract

**Background:** Lobular capillary hemangioma is one of the inflammatory hyperplasias seen in the oral cavity, majority are found on the marginal gingiva with only 15% of the tumors on the alveolar part. It predominantly occurs in the second decade of life in young females, male to female ratio, and size of lesion varies in diameter from few millimeters to several centimeters, but rarely exceeds 2.5 cm. This article presents a case of lobular capillary hemangioma in an 12 year old female who presented with a gingival overgrowth in her maxillary left posterior region. She had discomfort during mastication, interferes with occlusion there was a bleeding during brushing. The lesion was excised in two appointments as the lesion was highly vascular in nature and histopathological report confirmed the diagnosis. This case was followed up for six months with no recurrence of the lesion. Etiological factors, clinical features, differential diagnosis and different treatment options are discussed based on the review of current literature available.

**Keywords:** Gingiva, Pyogenic Granuloma, Trauma.

## Introduction

Oral pathological lesions are enigma for pediatric dentists and oral surgeons. Arriving at accurate diagnosis requires skill and perseverance to diagnose the same. This article depicts one such case mentioning about “Lobular capillary hemangioma”. It is such a pathological lesion which may present itself as a varied clinical entities.

Lobular capillary hemangioma is a relatively common soft tissue tumour of the oral cavity, said to be reactive and non-neoplastic in nature.<sup>1</sup> In English literature it was described by Hullihen<sup>2</sup> and Hartzell<sup>3</sup> called “pyogenic granuloma” or “granuloma pyogenicum. The different nomenclatures are “Granulation tissue-type hemangioma”, “Granuloma gravidarum”, “Pregnancy tumor” and “Tumor of pregnancy” and “Granuloma telangiectacticum” because of the evidence of the vascularity seen in the histological diagnosis.<sup>4</sup> The main etiological factors includes local or chronic irritation, trauma, hormonal factors, drugs, and hormonal imbalance.<sup>5</sup> The most frequent intraoral site is the gingiva (approximately 75%). It can also occur on the lips, tongue, buccal mucosa, palate and floor of the mouth.<sup>6</sup> The peak prevalence is in teenagers and young adults with a female predilection of 2:1 because of a vascular effect due to hormonal changes.<sup>7</sup>

## Case report

### History

A 12 year old female patient was referred to department of pediatric dentistry with the chief complaint of growth in her maxillary left posterior region. Patient was asymptomatic 2 months back when she noticed swelling in the upper left jaw region which gradually progressed to the present extent. The growth was initially smaller in size and had enlarged progressively to a size large enough to interfere with her normal occlusion. The lesion was highly vascular in nature, and there was history of bleeding present at the time of brushing and mastication, but no history of pain was present.

## Clinical presentation

Extra oral examination no facial asymmetry was present. Intraoral examination revealed an roughly oval shaped, reddish pink in colour, unilateral expansive swelling, present on maxillary attached gingival measuring about 2×1.7×1 cm in dimension. On palpation, the lesion was found to be firm in consistency and bleeding was present on using william probe (fig 1). An Intraoral periapical radiograph revealed ill defined radio-opaque shadow in left maxillary posterior region of 24, 25(fig 2). The radiograph showed no displacement of tooth. None of the teeth showed the resorption of the roots.



Figure 1: Intraoral examination reveals roughly oval shaped reddish pink swelling on maxillary left attached gingiva.



Figure 2: IOPAR irt 24, 25

The lesion was provisionally diagnosed as lobular capillary hemangioma with the differential diagnosis kept as peripheral giant cell granuloma, peripheral ossifying fibroma, Kaposi sarcoma. Patient was sent for laboratory investigation. Laboratory test includes CT, BT, CBC which was normal. Patient was found negative for HIV, HCV, HBs AG.

The treatment plan in this case was oral prophylaxis followed by surgical excision of the lesion and treatment was explained to the parents. Initially oral prophylaxis was done later the lesion was excised surgically. As the lesion was highly vascular in nature, and there was uncontrolled bleeding present at the time of excision (fig 3), it was planned to control the bleeding using botroclet and excised the lesion in the next appointment after 15 days.



Figure 3: Excessive bleeding was present

Post-operative instructions were given and medication was prescribed and excised lesion was sent (fig 4) for histopathological examination.



Figure 4: Excised lesion

After 15 days the remaining lesion was excised completely using eletro-cautery (fig 5 & fig 6). After one week patient came for checkup and the healing site was satisfactory(fig 7).



Figure 5: Remaining lesion after 15 days



Figure 6: Immediate post-operative view after excision of lesion



Figure 7: Healing after 1 week

The lesion was sent for histoathological examination and specimen showed epithelium overlying fibro-vascular connective tissue stroma. Stroma shows bundles of collagen fibres along with the fibroblast and few inflammatory cells infiltrate chiefly consisting of lymphocytes and few plasma cells. These findings were consistent with histopathological diagnosis of Lobular capillary hemangioma. Furthermore, Patient was on regular follow-up for six months and there was no sign of reoccurrence (fig 8).



Figure 8: After 6 months follow-up

#### Discussion

The etiologic factors that can be considered are injury to the gingival crevice,<sup>8</sup> vigorous tooth brushing habits leads to repeated trauma to the gingiva,<sup>9</sup> improper selection of superstructure for implant cases,<sup>10</sup> prolonged use of



cyclosporine,<sup>11</sup> and occlusal interferences etc.<sup>12</sup> In this case tooth brush trauma and while mastication may be the probable cause.

Whenever size of the lesion is increased there will be occlusal interference while eating and brushing. Hence, there will be release of endogenous and angiogenic factors leads to the increased blood supply to the affected area and tends to bleed.<sup>9,12</sup> Estrogen and progesterone hormones levels will be increased during second decade of life especially in females. Hence they are more prone for occurrence of lobular capillary hemangioma rather than children,<sup>13</sup> but it can be seen in all age groups. Two types of the lesion are reported in the literature as follows; lobular capillary hemangioma (LCH) and the non-lobular capillary hemangioma (non-LCH). Based on the biopsy report this case represents lobular type.

An important consideration is the difficulty distinguishing between pyogenic granuloma and haemangioma histopathologically. In fact another name for pyogenic granuloma is lobular capillary haemangioma. The only subtle difference is that in comparison to pyogenic granuloma, capillary haemangiomas have more plump, histiocytoid endothelial cell proliferation without presence of acute inflammation. History plays a vital role in their differentiation. Haemangiomas are developmental in origin, usually beginning a few weeks after birth and growing rapidly thereafter. Lobular capillary hemangioma, on the other hand, tend to develop suddenly.

### Conclusion

Intra-oral lobular capillary hemangioma developing at extra-gingival sites can prove to be a diagnostic challenge to the clinician. The correct evaluation of pediatric patients before the biopsy is fundamental for better management of children with this condition. In the case under discussion, successful excision of the lesion was performed using electrocautery provide a new tool that can modify the way in which the present treatments are being performed, and post-operative outcome was found to be encouraging.

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