

Lobular Capillary Hemangioma on gingiva: A Report of two cases & Review of Literature.

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Abstract: Lobular capillary hemangioma otherwise called as pyogenic granuloma is a inflammatory hyperplasia affecting oral mucosa. It represents exuberant connective tissue proliferation to a stimulus or injury. Pyogenic granuloma is considered non-neoplastic benign lesion and has predilection for gingiva whereas capillary hemangioma has predilection for lips, cheek and tongue. Its incidence is high in second and third decade of life in female patients. Diagnosis of such lesions becomes difficult as gingival enlargement may represent inflammation, cysts and neoplasm. Some lesions are reactive in nature. This article presents a two case reports clinically diagnosed as “pyogenic granuloma” and histopathologically as “lobulated capillary hemangioma.” treated by surgical excision without any recurrence.

Keywords:- hemangioma, pyogenic granuloma, gingival enlargement, benign lesion.

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I. Introduction

Pyogenic granuloma is a tumor like growth that is exaggerated response to minor trauma or persistent irritation. Lobular capillary hemangioma are inflamed fibrovascular tissue and has been known by many names such as pregnancy eupulis, giant cell granuloma, papillary hyperplasia; most famously pyogenic granuloma.^{1,2}

Pyogenic granuloma is misnomer as it is not associated with pus and does not represent granuloma histologically. On basis of histological picture, it is called as Lobular Capillary Hemangioma. Benign tumors such as hemangioma consists of numerous blood vessels. They are classified as capillary, cavernous or sclerosing variety that undergo fibrosis; on basis of histological features.

Pyogenic granuloma are most commonly seen in gingiva. Histologically they are classified as Lobular Capillary Hemangioma (LCH) type and Non Lobular Capillary Hemangioma (Non-LCH Type) depending on vascularity and proliferation rate

II. Case Report 1

A 28 years old female patient reported to department of Oral Medicine & Radiology with chief complaint of growth on upper front region of gingiva, since past two months. The growth was initially millet sized and progressively increased to attain present size. No history of pain or bleeding given by patient.

Patient presented history of pregnancy a year ago, and was lactating. No other significant medical history reported by patient.

On intra oral examination, a sessile, exophytic gingival overgrowth was seen extending on interdental papilla in relation to 21 and 22 and covering crown of 21 & 22 in cervical region partially. Superiorly it was extending over attached mucosa, 2-3 mm away from labial vestibule. The growth was 2x1 cm in dimension; reddish pink in colour, surface was smooth, soft in consistency and non tender. There was slight bleeding on provocation. [Fig.1 A]. Co-relating history, clinical findings, signs and symptoms, provisional diagnosis of Pyogenic granuloma was given. The differential diagnosis considered was peripheral ossifying fibroma and peripheral giant cell granuloma.

Patient hemogram was under normal limit. The lesion was excised under local anesthesia followed by curettage and interrupted sutures were given. [Fig 1 B]

The specimen was sent for histopathological analysis. [Fig 1 C]. The H and E section revealed stratified squamous parakeratinized epithelium. Hyperplastic epithelium with long and branched rete ridges seen and ulceration was seen at place. The underlying connective tissue was fibrous composed of dense collagen

bundles and plenty of budding capillaries and dilated blood vessels lined by endothelial cells. Chronic inflammatory cell infiltrate chiefly of lymphocytes and plasma cells were seen. So histopathological features confirmed lesion as Lobular capillary hemangioma. [Fig .2 A and 2 B]

On follow up after 7 days , healing was uneventful and no recurrence was observed on follow up of 6 months.

III. Case Report2

30 years old male patient reported with chief complaint of growth in lower anterior region of jaw since one month. The growth was initially small in size and gradually increased to attain present size. It was painless but used to bleed frequently during tooth brushing. Patient gave positive history of tooth picking in the region to remove impacted food. Patient had habit of smoking since last ten years.

No other significant medical history was given by patient. On intraoral examination, patient had poor oral hygiene. Heavy deposits of calculus and stains were evident. Also crowding was present in lower anterior region where patient complained of food impaction and use of toothpick to remove the same.

Clinically lesion was seen in lower left anterior region arising from interdental papilla between 32 and 33. It was extending on attached gingiva inferiorly and was covering the crowns of 32,33 and 34. It was measuring 3x2x1 cm in size, lobulated, sessile, reddish pink in colour, with smooth surface and ulceration at places. It was soft in consistency ,non tender and bleeding on provocation was present. Co-relating history and clinical findings a provisional diagnosis of pyogenic granuloma was given. Differential diagnosis included peripheral giant cell granuloma and peripheral ossifying fibroma. [Fig. 3 A]

Routine blood investigations were normal and excisional biopsy was performed under local anesthesia followed by curettage. [Fig 3 B] Patient was guided for maintaining meticulous oral hygiene to prevent recurrence. The excised specimen was sent for histopathological analysis. Histopathological features were suggestive of Lobular capillary hemangioma. No recurrence was noted on follow up after 6 months.

IV. Discussion

The term ‘ Pyogenic granuloma’ or “granuloma pyogenicum” was coined by Hartzell³ .⁴ in 1904. Histologically it was described as “hemangiomatous granuloma” by Angelopoulos due to presence of numerous blood vessels and the inflammatory in nature.⁵

Hemangiomas are benign tumors of infancy; 7% these are common soft tissue of head and neck and often congenital to develop and its occurrence on gingiva is rare. It has high female predilection , in second and third decade of life.⁶ Clinically hemangiomas of oral soft tissue appears as a painless ,sessile or pedunculated mass, vary in size from few mm to cm. They present as deep red or bluish red in color as they are highly vascular and composed of hyperplastic granulation tissue with profuse blood capillaries.⁷ These lesions often arise from interdental papilla and progress gradually in size to involve adjacent teeth. Besides gingiva it may be located on tongue, buccal mucosa and lip.

According to Regezi et al LCH (Lobular Capillary Gingiva) is caused by chronic persistent stimulant or injury to gingiva due to foreign bodies or calculus inside gingival crevice. This leads to exuberant proliferation of epithelial tissue .⁸ They also stated that tooth brushing habit causes continuous trauma to gingiva leading to irritation and formation of those lesions.

Shafer et al stated that infection by staphylococci or streptococci may give rise to oral pyogenic granuloma.⁹ Minor trauma to tissue facilitates invasion of these micro-organisms. Overhanging restorations, poor oral hygiene ,ill fitting prosthodontics crowns, immunosuppressive drugs such as cyclosporine are considered contributing factors for development of pyogenic granuloma.

The hormonal changes may provoke this condition. Five percent of pregnant women present with pyogenic granuloma and it is due to heightened tissue response to plaque and irritation due to hormonal imbalance.¹⁰

Histologically pyogenic granuloma presents with granulation tissue and vascular proliferation. The engorged blood vessels show clusters and separated by fibrous septa. The blood capillaries are arranged in lobular aggregates surrounded by thin collagen layer.

Lobular capillary hemangioma clinically mimick to peripheral ossifying fibroma and giant cell granuloma which can be differentiated on basis of histopathology.¹¹ Also peripheral ossifying fibroma are large lesions and show calcification. Peripheral giant cell granuloma show presence of multinucleated giant cells. ¹¹

Conventional treatment includes surgical excision along with curettage to prevent recurrence. Also other treatment modalities include CO₂ laser , cryotherapy, electodesiccation , sclerotherapy and use of intralesional steroids.^{12,13,14}

Taira et al reported 16% of excised lesions had recurrence. In our case report both cases were treated by conventional surgical excision and healing was eventful. Patient was kept on maintenance visit for 6

months and no recurrence was observed on noted follow up . Also patients were instructed and guided to maintain meticulous oral hygiene.

VI. Conclusion

Lobulated Capillary hemangioma is a common non neoplastic lesion. The deep scaling along with curettage in addition to surgical excision is acceptable treatment. Careful diagnosis is essential to differentiate this lesion from vascular lesions. Dental surgeons should be careful in diagnosing and managing such lesions .Necessary precautions should be taken prior to attempt an excision of apparently innocent lesions.

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Figure 1 A Single sessile growth on interdental papilla between 21 & 22 measuring 2x1 cm in size.

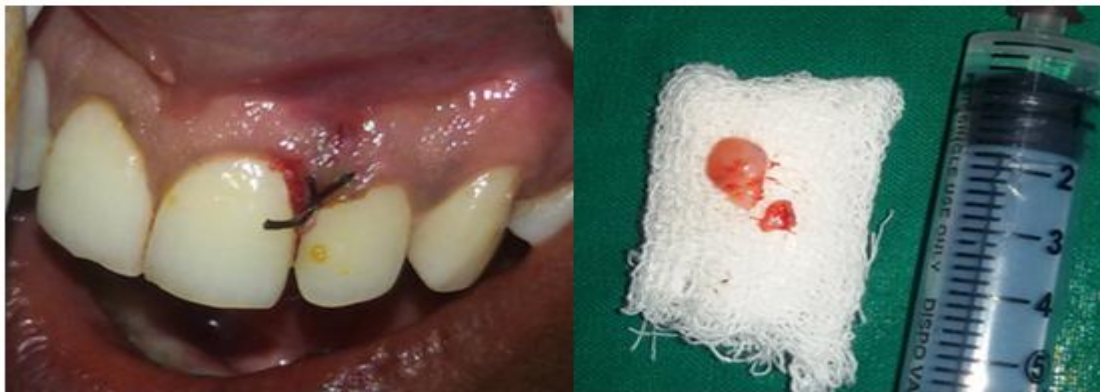


Fig 1 B Surgical excision of lesion. **Fig 1 C** Excised soft tissue specimen.



Fig 3A Single growth was in 32, 33,34 region attached to the normal gingival and measuring approximately 3x2x1 cm in dimension.



Fig 3 B Excised soft tissue from the lingual aspect .

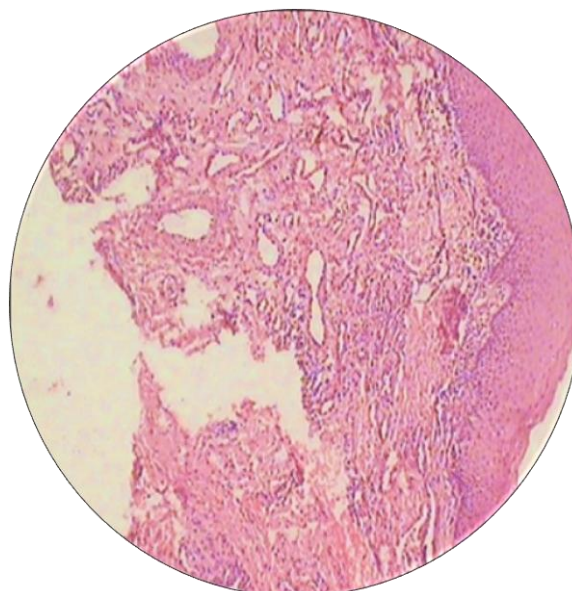


Fig. 2 A - 10 X magnification

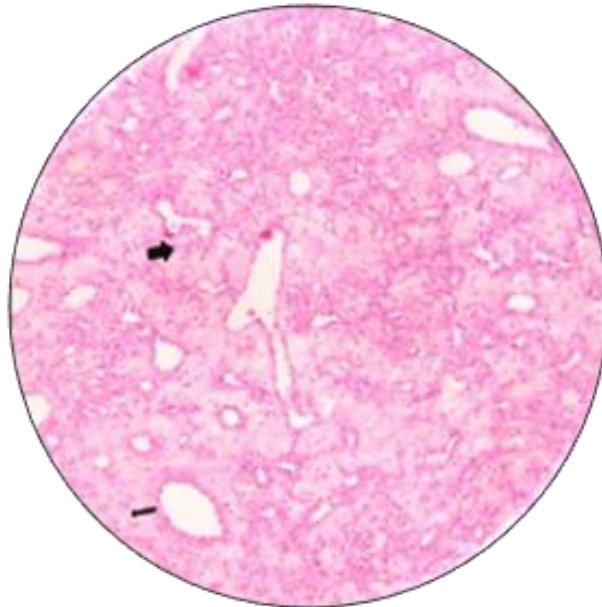


Fig 2 B - 40 X magnification.

Fig. 2 A , 2 B Histopathology image under 10 X and 40 X showing H and E stained section shows parakeratinized stratified squamous epithelium with long slender rete – ridges and connective tissue stroma, dense inflammatory infiltrate chiefly lymphocytes are seen, capillaries lined by endothelial cells evident.

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