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Case Report

PYOGENIC GRANULOMA – MIMICKING CAPILLARY HEMANGIOMA – A CASE REPORT

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A R T I C L E I N F O

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A B S T R A C T

Pyogenic granuloma is a commonly occurring inflammatory hyperplasia of skin and oral mucosa. It is non neoplastic commonly found on gingiva and presents itself in various clinical and histological forms. It is commonly seen in females with male to female ratio 1:2. In the present case report, a 27 year old male complaining of swelling on gingiva which was clinically mimicking capillary hemangioma, later was diagnosed histologically as pyogenic granuloma. Since surgical management of the case alonewould have negative impact on gingival esthetics, concurrent root coverage procedure was performed to obtain an optimal therapeutic outcome.

INTRODUCTION

Pyogenic granuloma is a tumor like growth that is considered as an exaggerated conditioned response to minor trauma.The term pyogenic granuloma was applied based on an identical lesion on the skin thought to be caused by pyogenic organisms. However it is no longer accepted since the condition is not caused by infection and does not associate with pus. Clinically and histologically does not represent a granulomatous inflammation. PG presents as a well circumscribed, erythematous, generally pedunculated, polypoid growth with a definite predilection for maxillary anterior region. The present case clinicallydid not show any pedunculation and was easily blanching with compression giving them a characteristic 'bag of worms' feel which is a classical feature ofcapillary hemangioma.

Capillary hemangioma is a benign proliferation of blood vessels usually occurs during childhood. It is composed of many small capillaries lined with the single layer of endothelial cells supported by connective tissue stroma of varying density. It bears resemblance to new granulation tissue and is nearly identical to some cases of PG. The purpose of this article is to report an unusual case of tumor like growth on maxillary anterior gingiva which was a dilemma in diagnosing it as pyogenic granuloma or capillary hemangioma clinically.

CASE REPORT

A 27 year old male visited to the hospital with a chief complaint of swelling and bleeding gums in the upper front tooth region which is gradually increasing in size since two years.

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On clinical examination localized gingival swelling of 1.5cm × 1cm size which was extending from the interdental papilla, marginal gingiva and attached gingiva with respect to upper left lateral incisor. Swelling was reddish brown in color with well defined borders, appeared smooth and shiny, erythematous, soft in consistency and was firmly attached to the base. It was easily blanching with compression and spontaneous bleeding occurred on probing the area, pocket was no seen.

The lesion was painless, patient had discomfort while brushing due to bleeding. The swelling was esthetically unpleasant. On physical examination including lymph nodes revealed no abnormality. Patient's medical history did not show any positive findings.

On hard tissue examination, moderate supra and sub gingival calculus with mild gingivitis was seen. Radiographic examination revealed no apparent bone loss. After complete examination of patient, differential diagnosis of pyogenic granuloma and capillary hemangioma was made.

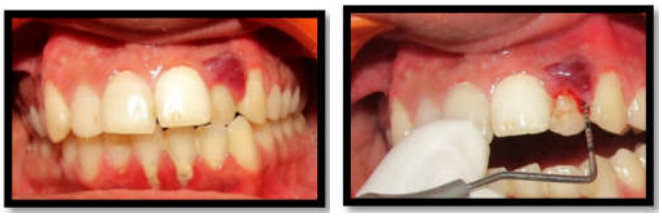
Initially scaling and root planning was performed. Severe bleeding during the procedure was encountered at the site and it took about 20min to stop bleeding by applying pressure with gauze.

Patient was advised to maintain oral hygiene with proper brushing twice daily and advised to use chlorhexidine mouth rinse of 0.2% twice daily and recalled after 15 days. On observation there was no reduction in the size of the lesion and swelling reappeared as it was before. So, it was decided to treat the lesion with surgical approach. Routine hematological examination was performed. Local anesthesia was injected and localized area was excised with the help of no.15 blade up to

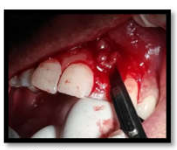
the base of the lesion, but before excision measures were taken to control bleeding with the help of electro cautery as the lesion was resembling capillary hemangioma.

After excision sever bleeding initially present which was controlled after complete excision. The marginal bone was exposed in relation to 22, split thickness flap was raised upto mucogingival junction and flap was coronally repositioned to cover the exposed root surface and bone. Sutureswere placed and periodontal dressing was applied and patient was recalled after 1 week. Amox 500mg thrice daily, Diclofenac sodium 50mg twice daily for 3days, tablet PAUSE 500mg (SOS) and chlorhexidine mouthwash were prescribed. The excised tissue was sent for histologic examination. Based on histologic report it was finally diagnosed as pyogenic granuloma.

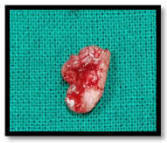
After one week sutures were removed and irrigation done, there was no recurrence of swelling. One month follow up done, lesion was totally eliminated. Patient was recalled after three months for re-evaluation, showed no recurrence of swelling and root coverage was stable.



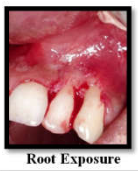
Pre Operative



Excision

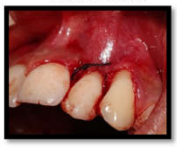


Excised Tissue



Root Exposure

Root Coverage



Sutures Placed

1 Month Follow Up

Histologic sections showing inflammatory cells with ulcerated area

DISCUSSION

Pyogenic granuloma is an inflammatory hyperplasia affecting the oral tissues. The first pyogenic granuloma was reported by Hullihen's in 1844. It was in 1904 that Hartzell first introduced the term pyogenic granuloma.[1] The various terminologies were used like Crocker and Hartzells disease. Angelopoulous based on the histologic view, described PG as Hemangiomatous granuloma. Cawson and coworkers named it as Granuloma telangiectacticum. It is also called as granuloma Pediculatum Benignum, Benign vascular tumor and during pregnancy as Granuloma gravidarum.[1,3]

This lesion is formed as a result of an exaggerated localized connective tissue reaction to a minor injury or any underlying irritation. The irritating factor can be calculus, poor oral hygiene, nonspecific infection, over hanging restorations, cheek biting etc. Because of this irritation, the underlying fibro vascular connective tissue becomes hyperplastic and there is proliferation of granulation tissue which leads to the formation of a pyogenic granuloma.[3]

Kerr and Bhaskar *et al* observed various Gram +ve and Gram–ve bacilli more commonly in ulcerated lesions near the surface than in deeper aspects suggesting contamination from oral flora can lead to formation of PG.[3] Shafer *et al* stated that some minor trauma to tissue provided pathway for invasion of non-specific types of microorganisms. [2] Reichart *et al* stated that granulation tissue formed due to irritation by contamination of oral flora become covered by fibrin mimicking pus. They also stated that suppuration is not a characteristic in oral PG to support infectious origin. [8]

PG is seen predominantly in the second decade of life in females. [4] This is thought to be due to the vascular effects of female hormones.[5] While some authors believe PG in more common in males, some believe otherwise. Female hormonal changes have remained a focus of investigation in the etiology of pregnancy tumor, a type of PG that occurs during pregnancy.

Clinically, the lesion appears as the smooth or lobulated mass that is usually pedunculated. The surface is characteristically ulcerated and color ranges from pink to red to purple, depending on the age of the lesion. However capillary hemangiomas appear either sessile or pedunculated. They are soft in consistency and may be smooth or irregularly bulbous in outline. The tumor blanches on the application of pressure, and the colour varies from deep red to purple. The clinical findings correlated with our present case.

Histologically, the surface of the PG is often ulcerated and lined by a thick fibrin purulent membrane. A mixed inflammatory cell infiltrates of neutrophils is mostly prevalent near the ulcerated surface while chronic inflammatory cells are found deeper in the lesion.[12] Where as hemangioma's shows many large and small capillaries filled with RBCs and the epithelium associated with fibrovascular connective tissue.

Radiographic findings are usually absent. However, Angelopoulos concluded that in some cases long standing gingival pyogenic granulomas caused localized alveolar bone resorption.

Differential diagnosis include peripheral giant cell granuloma, peripheral ossifying fibroma, metastatic cancer, hemangioma, pregnancy tumor, conventional granulation tissue hyperplasia, kaposi's sarcoma, bacillary angiofibromatosis and non-Hodgkin's lymphoma.[6] Treatment includes Surgical excision[1] lasers (Nd: YAG, CO2), [7] cryosurgery (intra‑lesional triamcinolone injection, and topical application of timolol).[9] Injection of absolute ethanol, use of sclerosing agents such as sodium tetradecyl sulphate.[10] In the present case surgical excision followed by coronally advanced flap done for root coverage.

CONCLUSION

PG is a common non-neoplastic lesion of the oral mucosa, especially on the gingiva. The term pyogenic granuloma is frequently used which is not associated with pus and histologically it resembles angiomatous lesion rather than granulomatous lesion. In the present case along with the excision of lesion periodontal plastic surgery was performed in order to maintain the gingival esthetics and to avoid hypersensitivity due to exposed root surface.

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